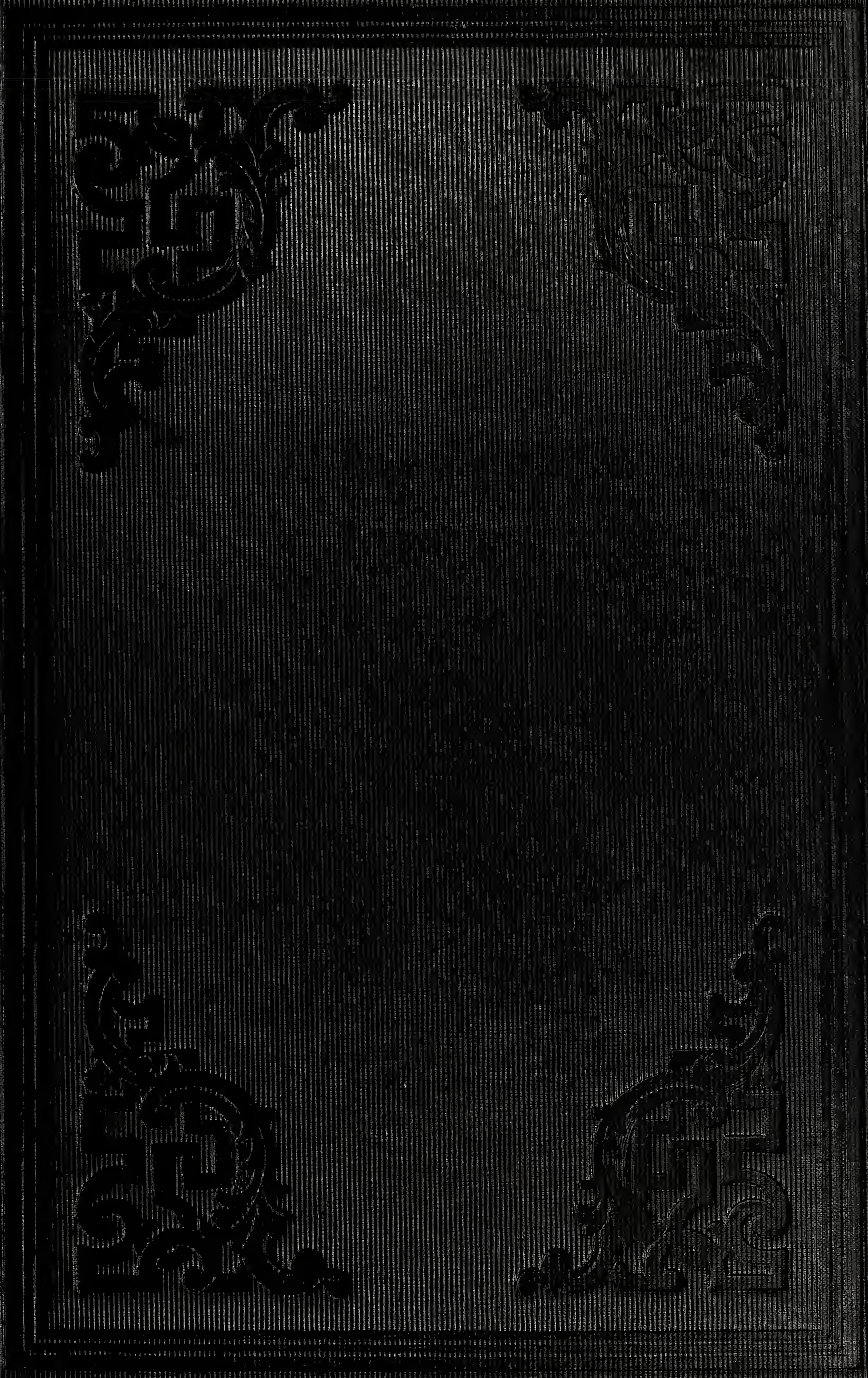


RULES AND REGULATIONS
FOR THE
LIBRARY
OF THE
Worcester County Horticultural Society.

ADOPTED BY THE TRUSTEES, FEB. 6. 1849.

ARTICLE I. All Books, Engravings, Paintings, and other articles appertaining to the Library shall be confined to the care of the Librarian, under the supervision of the Trustees.

ARTICLE II. It shall be the duty of the Librarian to keep a correct Catalogue of all the Books, Engravings, &c., belonging to the Library, together with a list of all the Books, &c. presented to the Library, with the date of the bequest, and the name and residence of the donor.

ARTICLE III. Not more than one volume, if of octavo or larger size, or two volumes if smaller than octavo, shall be taken out by any member at one time; or retained more than three weeks, if of the large size, or two weeks for the smaller; and every person shall be subject to a fine of ten cents per week for each volume retained beyond the specified time.

ARTICLE IV. Every Book shall be returned in good order, regard being had to the necessary wear thereof, with proper usage; and if any book shall be lost or injured, the person to whom it stands charged, shall replace it by a new volume or set, if it belonged to a set; or pay the current price of the volume or set, and thereupon the remainder of the set, if the volume belong to a set, shall be delivered to the person so paying for the same, unless otherwise directed by vote of the Trustees.

ARTICLE V. No other person than members of the Society shall be permitted to take Books, &c. from the Library; and no member shall loan a Book to another person.

ARTICLE VI. The Librarian shall keep a record of the names of all the persons who take Books out, together with the titles of the Books, and the dates when they are taken away and returned.

ARTICLE VII. All Books, &c. belonging to the Library shall be returned previous to the time of holding the Annual Meeting in each year. And it shall be the duty of the Librarian to report to the Society at each Annual Meeting the state and condition of the Library, and the addition, if any, made to it during the previous year.

ARTICLE VIII. Every Book shall have a copy of the foregoing Regulations affixed to it.

S
1
C967
1844
v.1
MHT

m.4

INCORPORATED
184

THE

CULTIVATOR,

A MONTHLY JOURNAL, DEVOTED TO

AGRICULTURE, HORTICULTURE, FLORICULTURE,

AND TO

DOMESTIC AND RURAL ECONOMY.

ILLUSTRATED WITH ENGRAVINGS OF

FARM HOUSES AND FARM BUILDINGS,

IMPROVED BREEDS OF

CATTLE, HORSES, SHEEP, SWINE AND POULTRY,

FARM IMPLEMENTS, DOMESTIC UTENSILS, &c.

NEW SERIES—VOL. I.

SMITHSONIAN
JAN 27 1977
LIBRARIES

ALBANY, NEW-YORK:
PUBLISHED BY LUTHER TUCKER, EDITOR AND PROPRIETOR.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
Where single numbers, or complete sets of the back volumes, can always be obtained.

FROM THE STEAM PRESS OF C. VAN BENTHUYSEN & CO

1844.

INDEX TO VOLUME I

(NEW SERIES.)

[Explanation.—In making out the annexed Index, we have placed every thing relating to Manures under that head—so with Cattle, Horses, Sheep, Swine, Poultry, Domestic Economy, Books, Periodicals, &c. Every article referring in any wise to these subjects, will be found arranged under these several heads.]

A.

Acknowledgments, 10, 41, 73, 105, 144, 169, 201, 233, 265, 297, 329, 362.
ADDRESSES—Notices of, &c.
— Mr. Bancroft's, at Poughkeepsie, 346
— Dr. Beekman's, at Dutchess, 333
— Dr. Lee's at Buffalo, 47
— Mr. McCaleb's at Baton Rouge, 149
Addison co. Vt. Ag. Society, 331
Agricultural Chemistry, 93
— — Association, 267, 269
— College in Tennessee, 74, 215, 362
— — in England, 228, 268, 366
— — at Amherst, 265
— Education, in Tennessee, 74, 215
— — Proceedings of State Convention, 203, 210
— — Remarks of Dr. Lee and others, on, 76, 87, 94
— — in Europe, 286, 334
— — in Newburgh, 144
— Exhibitions, notices of, 332
— Schools, importance of, 142
— — Books wanted for, 151
— — at Hofwyl, Templemoyle and Wirtemburg, 286
— — at Larne, Ireland, 334
— Meetings in Albany, 114, 148, 152
— Publications, value of, 231, 236, 377
— Readers Classed, 52
— Societies, times of holding Fairs, 181, 247, 269, 306
— — Influence of, 227
— — of Nova Scotia, 363
— — Notice to, 362
— See Titles of Ag. Societies.
— Survey of Hamilton co., O., 362
— Warehouses, 19
Agriculture, Study of, 151
— Dr. Lee's Report on, 110
— Errors in, 27
— at the South, 310
Alabama, letter from, 219
— analysis of soils from, 145
Almanac, Cultivator, 74, 231, 329
— Western Farmer's, 42
— Agriculturist, 266
Alpaca in Great Britain, 228
Ammonia, value of, 47
American Institute, Fair of, 333
— Provisions in England, 365
Amusements for Farmers' Boys, 170
Animal Physiology, 94
— Nutrition, 152
Animals, care of in Spring, 81
— Carbon consumed by, 206
Analysis of soils, 145, 309
Apples, culture of, 99, 382
— Hyatt's Seedling, 362
— without seed or core, 210, 321
— productive trees, 176
— as food for animals, 308
— from Nova Scotia, 388
— sweet and sour, 390
— rot in, 303, 329
— Pomace for Manure, 359
Apple Tree Borer, 216, 235, 311
— Diseases and enemies of, 99
Apricot, culture of, 327
Artichokes, culture of, 338
Ashes, Fires caused by, 46
Asparagus, Virtues of, 147
— Brine for, 42, 164
Atlas, Cereographic, 42

B.

Barber co. Ala. Ag. Society, 43
Barley, Premium Crops, 51, 366
— culture in S. Carolina, 390
— to raise clean, 147
Beans, to have green in winter, 68
— Lima, culture of, 100
Beef, to cure, 374
Bees, to transfer, 161
— care and management of, 21, 194, 260
— number in a hive, 366
— to prevent fighting, 176
Bee Moth, to destroy, 235
Bee Hives, notices of, 65, 169, 238
Bene Plant in Louisiana, 13
Bermuda Grass, 83, 278, 388
Blind Teeth in Man, 107
— Corrected to *Mare*, 170
Bog Lands, improvement of, 34
Bokhara Clover, 363
Bommer's Patent Manure, 31
Bone Mills wanted, 336
— — Builder of, 363
Bones, as a Manure, 364
BOOKS—Ag. Survey of S. Carolina, 139
— American Herd Book, 144, 158
— American Shepherd's Guide, 146
— Applied Chemistry, 220
— Colman's Tour, Part 1, 178, 257
— — Part 2 369
— Clater & Youatt's Cattle Doctor, 180
— Downing's Landscape Gardening, 367
— Dictionary of the Farm, 331
— Elementary Instruction in Chemical Analysis, 160
— Ellsworth's Report, 179
— Economy of Farming, 234
— Farming for Ladies, 331
— Farmer's Encyclopedia, 117
— Farmer's Mine, 117
— Fruits and Fruit Trees of Am. 180, 367
— Fownes' Chemistry, 266
— Geology for Beginners, 117
— Geological Survey of N. Y. 202, 266
— Gardner's Essay on Guano, 349
— Harris' Treatise on Insects, 251
— Johnston's Ag. Chemistry, 93, 367
— Kenrick's American Orchardist, 205
— Liebig's Familiar Letters on Chemistry, 63, 117
— Observations on Animal and Vegetable Physiology, 139
— Prize Essays on Manures, 117
— Poulterer's Companion, 144, 367
— Silk Question Settled, 201
— Spooner's History, &c. of Sheep. 261
— Transactions of N. Y. S. Agricultural Society, 180, 221
— Townley on Bees, 301
Book Farming, 377
Breeding, principles of, 157, 159, 213
Briars, best time to cut, 42
Buckwheat for Manure, 12
Buel, Judge, tribute to, 343
Budding, described, 68, 212
Buffalo Nursery, 266
Buildings, design for Cottage, 24
— Design for Farm House, 120
— Farm Buildings, &c. 121
— Prairie Farm House, 272
— Farm House, 282
— Horse Barns, 282, 385
Bulls, to prevent accidents from, 48
Bushes, to eradicate, 238
Bushes, best time for cutting, 357
Butter, great yield of, 10, 11, 43, 48, 66
— to make in winter, 22, 101, 203
— preserved in a well, 70
— to pack, 234
— should be twice worked, 262
— new way to make, 268
— Table and Stamp, 340

C.

Cabbage—new kind, 308
— should not be set near Ruta Bagas, 321
Canada Thistles, to destroy, 238
— — described, 304
Caledonia co., Vt., products of, 273
— Cattle Show, 331
Cane Fly of Grenada, 173
Carbon consumed by Animals, 206
Carpets made in the United States, 24
Caponising, described, 12
Carrots—Premium Crops, 51, 94
— culture of, 62
— left in Ground through Winter, 141
Castration of Animals, 298
Catalpa for Posts, 293
Caterpillars, to destroy, 164, 197
CATTLE—Acclimating, remarks on, 160
— Ayrshires in Germany, 39
— Breeding, principles of, 157, 159, 213
— Bulls, Mr. Vail's Meteor, 17
— — Mr. Mack's Remus, 159
— — period of usefulness of, 70
— — to prevent accidents from, 48, 108
— Bullock Stock, History of, 276
— Calves, Linseed for, 182
— — Proper Feed for Winter, 21
— — Rearing, remarks on, 108
— — Without Horns, 227
— Connecticut Oxen, 333
— *Cows*—Bakewell, 335
— — Barren, 102, 150
— — Continuance of Milk in, 357
— — Drying up their Milk, 70
— — Great Products of, 10, 11, 43, 48, 76, 97, 235, 246
— — Importation of, by Mr. Vail, 329
— — Injured by Indian Meal, 108
— — keeping and products of, 177
— — Mr. Mason's, 10, 74
— — Mr. Schenck's, 97
— — Management of, 157
— — Points of a Good Milker, 182
— — Remedy for Hard Milkers, 14, 166, 199
— — Remedy for Unruly Milkers, 231
— — Sore Teats, cure for, 175, 212, 380
— — Spaying, 357
— — Warts on Teats, cure for, 134
— *Diseases of*—Black Leg in Calves, 23, 70
— — Cure for various Diseases, 198
— — Diseased Animals, 108, 238, 380
— — Eye, to remove Chaff from, 197
— — Hoven, Cure for, 150
— — Hollow Horn, cure for, 230, 358
— — in England, 39
— — in Scotland, 335
— — in Stomach of, 336
— — Mad Itch, cause and cure of, 70, 197
— — Murrain, cure for, 102
— — Scours, remedy for, 134
— — Teats, cure for Warts and Sores on, 134, 175, 212, 380
— — Warbles, remedy for, 229
— Fat, 95, 106, 107, 109, 147, 157, 159
— Fattening, remarks on, 108
— — Compound for, 373

Cattle—Fattening—Horsford's Essay on Feeding, 152
— — Potatoes, on Feeding with, 96, 159
— Heifers, remarkable, 107, 147
— — Remarks on Breaking, 157
— Herefords, their Dairy Properties, 32, 66
— Oxen, on training, 339
— Premium, at Smithfield, 35, 88
— — at Poughkeepsie, 314
— — at Worcester, 339
— Selection of, 106
— Sales of, 182, 335, 362
— Soiling, see "Soiling."
Cattle Shows, influence of, 227
— Times of holding, 181, 247, 269, 306
Cellars, to make Rat proof, 60
Cement Pipes, how made 77
Charcoal, on use of, by Dr. Lee, 47, 114
— Remarks on, 74, 142, 183
— Its properties and action, 283
— influence of, 234
— and Salt, experiment with, 269
— Inquiries about, 381
Churns, Kendall's, 19
— Galt's, 207
Churning, new mode of, 170
Cheese, made from 49 Cows, 48
— made of Buttermilk, 70
— on making, 133, 165
— Cream, how made, 134
— Exported to China, 148
— Gloucester, to make, 166
— Experiments in making, 268
— Imported into Great-Britain, 182
Cheese Press, Self Acting, 133
Cherry Trees, Aphis on, 101
— Culture and Management of, 130
— Select Varieties of, 131
Chemistry in Common Schools, 319
Cider, manufacture of, 302
Cisterns, Cement, how made, 256
Clover Hulling Machines, 12, 42, 107, 335
Clover Hay, Effect of on Animals, 87
Clover Seed, protected by Straw, 56
— Raising, profitable, 363
— Quantity per Acre, 91, 153, 183
Clover as a Fertilizer, 234, 263, 276, 343, 352
Climate and Productions of the South, 60
Cloud, Dr. N. B., tribute to, 310
Clean Culture, importance of, 239
Coco or Nut Grass, 27, 58, 60
Colman, Rev. H., in England, 85, 147, 300
— Letter from, 267
Cold Weather, 86
Colleges, remarks on, 350
Columbia Horticultural Society, 332
Compound for fattening cattle, 373
CORN, INDIAN—Culture of, 49, 79
— — at the South, 310
— Amount grown in New-York, 110
— Calico, 11
— Constituents of, 153
— Durand, 226, 335
— Experiments in Harvesting, 301
— Great Yields, 11, 51, 58, 59, 59, 80
— Grinding on the Cob, 149
— Grown in England, 366
— Improved Variety, 13
— Implements for Culture of, 209
— Product per Acre, 49, 50
— Sown Broadcast for Fodder, 21, 84, 147
— Saline Manures for, 58
— Seed, Preparation of, 106, 107
— State Premium for Experiments in Culture of, 53, 116
— to have Green in Winter, 68, 226, 292
— to Preserve from Frost, 106, 191
Corn Sheller and Separator, 381
Corn Stalks, how cured, 271
— Molasses and Sugar from, 150
— Machine for cutting, 107
— for Fodder, should be cut, 18
Corn Sheller and Husker, Goldsborough's, 15
Corns, cure for, 115
Comfrey as Food for Cattle, &c., 43
— Culture of, 225
Common Schools, Chemistry in, 319
— Improvement of, 107
— Libraries for, report on, 116
Composts, see Manures.
Connecticut, farming in, 176
— Cattle, 333
COOKERY—Biscuit or Rolls, 22
— Apple Butter, to make, 391
— Bullock's Heart, 23
— Bacon and Cabbage, 23
— Bachelor's Pudding, 203
— Custards, to make soft, 391
— Mince Pies without Wine, 134
— Okra Soup or Gumbo, 134
— Pumpkin Pies, 70
— Sturgeon, to cook, 208
Cookery—Tripe and Souse 23, 385
Correspondents, Hints to, 151
COTTON—Mr. Affleck's Proposition, 12
— Culture of, by Dr. Cloud, 28
— — by Gen. Hamilton, 310
— — in Georgia, 128
— Experiment with, 42
— Advantages of Marl for, 46
— Premium, 170
— Crops, Notices of, 266, 285, 330, 331
— Large yield of, 330
Cotton Planters, Suggestions to, 124, 358
Cotton Gin, 144, 198, 216
Couch Grass, to destroy, 236
"Credit" not given, 170, 266
Crops—Mr. Capron's Rotation, 14
— Mr. Geddes' do. 49
— Col. Tulley's, in Virginia, 78
— Mr. Hart's, in Dutchess, 107
— Rotation of, for S. Carolina, 390
— Notices of—in Chester co. Pa. 297—North Carolina, 207—Illinois, 227, 375—Ohio, 233—Queens co. 234—Maryland, 274.
— in Alabama, 330
— in Mississippi, 331
— Large, in England, 369
Crows, White, 229
— to kill, 309
Cucumbers, trained on Trellises, 171
Cultivator—Address to Patrons of, 9, 361
— Illustrations of, 10
— for Premiums, 43, 169, 181
— Circulation of, 73
— Plow, Langdon's, 104
Currant, Culture of, 218
Cutting Straw, Hay, &c. for Fodder, 18
Cut Worms, Salt for, 62
— Remedy for, 160, 320

D.

Dairy, experiments in, 212
Dark ages, evidence of, 244
Delaware, Agriculture of, 202
Dogs, Shepherd's, 49
DOMESTIC ECONOMY—Apple Preserves, 262
— Blackberry Syrup, 262
— Blue, to color, 166
— Corn, Green, in Winter, 226
— Cheese, from Buttermilk, 70
— Croup, cure for, 331
— Cotton Beds, 391
— Curing Hams and other Meat, 374
— Damp Beds, 206
— Diarrhea, burnt Rhubarb for, 262
— Eggs, to preserve, 166, 198
— Eyes, Weak, remedy for, 198
— Flowers, to extract Oil from, 262
— Grease Spots, to remove, 70, 223
— Ginger Beer, to make, 170
— Glass Ware, Cement for, 308
— Head Ache, cure for, 338
— Iron, to preserve from Rust, 207
— Ink Spots, to remove, 211
— Iron Molds, to extract, 262
— Pears, to preserve, 262
— Raspberry Syrup and Jam, 262
— Saleratus in curing Meat, 345
— Scarlet, to color, 349
— Tomato Catsup, 262
— Tomato Preserves, 198
— Yeast, to make, 391
Domestic Manufactures—committees on, 289
Downing's Nurseries, visit to, 299
Draining—Beneficial to Health, 147
— Remarks on, with Illustrations, 240
— Bog Lands, 271
— Tiles for, 349
Draining Machine, 205
Drill Barrows, Mr. Batty's, 118
— Mr. Lewis', 199
— Mr. Griswold's, 201
— Haines & Kilbourne's, 311
Drag Rake, history of, 226
Drouth, effect of on Plants, 207
Durham, City of, 204
Dynamometers, Improved, 300

E.

Eggs—to keep 166
— Trade in, 229
— Nest, 22, 234
England—American Seeds in, 228
— Capital employed in, 178, 182
— Gang System in, 212
— State of Agriculture in, 178
— Weather and Crops in, 182, 228, 268, 300
Ergot, cause of, 356
Experiments recommended, 106, 143

F.

Fair, proposed at Baltimore, 59
— — at Washington, 96
Farming—in the West, 44
— Capital, remarks on, 176, 221
— First Year at, 67
— on the Aroostook, 247, 348
— Rules for good, 229
— what constitutes good, 246
FARMS—Notices of;
— Capron's Premium, 14
— Mr. Ketchum's, at Westport, Ct. 33
— Mr. Noble's, in Ohio, 44
— Mr. Geddes' in Onondaga, 49
— Col Tulley's, in Va. 78
— Mr. Pell's, Pelham, 183, 299
— Mr. Harbottle's, England, 204
— Mr. Smith's, Deanston, 229
— Mr. Van Buren's, 236
— Dr. Beekman's, 236
— Mr. Bett's, Newburgh, 299
— Mr. Poore's, Mass. 341
— Mr. French's, Braintree, 368
— Evils of Leasing, 151
Farm School, in Saratoga, 259
Farmer's Clubs recommended, 269
Fence Posts of Stone, 285
Fencing, cost of, 298
— Improved Board, 113
— Moveable Fences, 251
— to make strong Board, 153
— Improvement in, 217
Fish Ponds, artificial 236, 300
Flax five feet high, 297
— Pulling Machine, 298
Florida, Season in, 107
Flowers, Culture of, 164
— Conversion of Single to Double, 227
Food of different Nations, 76
— for different kinds of Stock, 152
Fodder, preparation of, 18
— should be cut, 44
Fruit—Exhibition of, at Worcester, 11
— Culture of, at the South, 69
— Changes in, 132
— Early kinds of, 195
— Culture of in Mass., 196
— Profits of, 201, 321
— Penalty for Stealing. 234
— New Varieties introduced, 266
— Rot in, 303
Fruit Trees—
— Culture of, by J. J. Thomas, 37, 68, 98, 130, 162, 195, 217, 254, 294, 327, 355
— Culture of, by A. J. & C. Downing, 299
— by A. Coffin, 382
— Transplanting and subsequent Management, 38, 130
— to prevent being gnawed by Mice, 38, 386
— on Division Lines, 196
— Remedy for injury by Mice, 202, 321, 348, 386
— Salt for. 368—Wash for, 235
— Labels for, 295, 382
— Five Modes of Cultivating, 353
— Suitable for the South, 336
Frost in May, 170
— in September, 298
Fuel, comparative value of Green and Dry, 21
Furnace for boiling sap, 22

G.

Gang System of England, 212
Gapes in Chickens, 305
Gardening, Ornamental, 257
Garden Vegetables, 100
Gates, Plan of, 65
Gaylord, Willis, Death of, 137
— Tribute of Respect to, 138, 146, 267
Geese, wild, white, 150, 226
Germination, remarks on, 180
Gooseberry, culture of, 218
Gophers, to kill, 209
— of Florida, 292
Grafting—Process described, 68, 197
— Remarks on, 164
— Correction of, 221
— the Grape Vine, 101
Grafts, proper time for cutting, &c. 101
Grain, Fermentation of, 181
Grapes, culture of, by Dr. Underhill, 46
— valuable native, 382
— at Brinckleyville, 336
— culture of, 32, 208. 298, 389
— Healthfulness of, 145
— Grafting, 101
Grape Frame, 217
Grass, Insect in, 206
Grass Lands, seeding, 97
— Experiment in Manuring, 35
— made from Bog, 34, 271
Grasses—Timothy, 45, 140
— Crab, 58
— Nut, 27, 53, 60, 141, 160, 353
— Bermuda, 83, 278

Grasses—Lucerne, 35, 86, 246, 273
— Muskete, 83
— Comparative value of, 372
— from Bermuda, 388
Grist Mill—R. Sinclair & Co.'s Portable, 169
— Arnold's, 201
Grove, H. D., Death of, 118
— Tribute of Respect to, 146
Guano—Analysis of, 245, 291, 364
— African and Peruvian, 182, 228
— Application of, 238
— from North Sea Islands, 182
— on Corn, 43
— Trade, Ships employed in, 269
— Origin of, 379

H.

Hams do not lose weight in curing, 141
— to cure, 374
Harrows, Mr. Geddes', description of, 16
Hay—Salted, injurious, 11, 153
— should be cut for Fodder, 18
— Timothy, value of, 45, 140
— Best time for cutting and best mode of curing, 97, 123, 173, 242
— Large Crop, 107
— Amount grown in this State, 110
— Salting and Curing, 161, 183, 387
— Preserved in Pits, 228
Hedges for the South, 270
— Buckthorn and White Cedar, 299
Hemp Tree in Kentucky, 16
Hint to Farmers, 298
Highland and Ag. Society's Cattle Show, 300, 335
— Meetings at Glasgow, 334
Honorary Members of Societies, 266
Horn Piths, valuable as a Manure, 234, 364
HORSES—Best Breeds for the Road, 122
— Breeding Fancy Colors, 159, 214
— Colts, rearing and training, 10, 157
— *Diseases of:*
  — Big Head in, 270
  — Blind Teeth, 23, 134, 150
  — Cures for various Diseases, 198
  — Founder, cure for, 70, 257
  — Glanders cured by Tobacco, 218, 336
  — Heaves, cure for, 150, 171
  — Lock Jaw, cure for, 262
  — Splints, remedy for, 337
  — Swinney, cure for, 197
— Driving with a single Line, 209
— English Cart, 56
— Experiments in feeding, 18
— Good points of, 113
— Management of, 157
— Nicking, how performed, 174
— Norman, 297
— Russian, 366
— Preparation of Food for, 171
— to prevent jumping Fences, 279
Horse Power, Hall's, 344
— — Taplin's, 377
Horse Radish, culture of, 100
Horticultural Curiosity, 366
Hot Bed, construction of, 69
Hurdles, cheap, 251

I.

Implements for cultivating Corn, &c. 209
Improvement—of old Farms, 60. 344
— of Bogs, 34, 236, 240, 271
— of Clay and Sandy Lands, 87
— See *Soils.*
Indian Corn—see *Corn.*
Insects—Aphis on the Cherry Tree, 101
— — to destroy, 100, 358
— Apple Tree Borer, 100, 216, 235, 311
— Bee Moth, to destroy, 235
— Cane Fly of Grenada, 173
— Canker Worm, 100
— Caterpillars, to destroy, 164, 197
— Curculio, Habits of, 291
— — Disappearance of, 340
— Cut Worms, 62, 160, 320
— Dragon Fly, May and Horn Bugs, 277
— Power of smell in, 340
— Pea Bug, 372
— Quince Borer, 195
— Peach Borer, 255
Ireland, state of Agriculture in, 204
Iron, to preserve from Rust, 207, 335
Irrigation, inquiry about, 60
— Value of, 155
— Experiments with, 357

K.

Keep it before the People, that taking Fruit is stealing, 234
Ketchum's Farm, improvements on, 33
Knowledge important to Farmers, 194

L.

Labor, dearness of, 60
— Relative profits of free and slave 237
Laborers, food of, in England, 245
— condition of, 370
Lambs raised for the Butcher, 75
Land Sales, Fraud in, 47
Lard Oil made at Cincinnati, 311
Larches, for Timber, 306, 389
— will grow on high Ground, 336
Letter—from F. Rotch, 85
— from Richmond to Solon Robinson, 286
— from J. P. Norton, 204, 245, 267, 334 364
— from an Englishman in Ohio, 229
— from Down East, 348
— from D. G. Mitchell, 365
Lima Beans, culture of, 100
Lime—not a destroyer of Sorrel, 90, 236
— repeated applications unnecessary, 246
— Best mode of applying, 114, 270
— Phosphate of, inquiry about, 187
— — Reply to, 258
Lindenwald, visit to, 236
Loudon, J. C., Death of, 86
Louisiana State Fair, 121
— Suggestions to Planters of, 149
Lowell, notes of a trip to, 284
Lucerne, culture and value of, 35, 86, 246, 273
Lusus Naturæ, 383

M.

Madder, culture of, 359
Madison County Fair; 333
MANURES—Apple Pomace, 359
— Anthracite Coal Ashes, 15
— Ashes and Lime, 109, 141
— Application of, 237
— Adulteration of Artificial, 246
— Advantage of Covering, 366
— Bommer's Patent, 31
— Bones, value of, 364
— Burnt Clay for, 246
— Charcoal, see *Charcoal.*
— Composts, modes of making, 87, 119, 141, 246, 359
— Escape of from the Soil, 301
— Green Crops for, Buckwheat, 12
— — Experiment with, 26
— — Turneps for, 43
— — Clover, 234, 263, 276. 343, 352
— — Indian Corn, 270
— — Contrivance to prevent from choking Plow, 141
— Guano, see *Guano.*
— Horn Piths, value of, 234, 364
— Horn Shavings. value of, 114
— Importation of, into Great Britain, 322
— Importance of, 182
— Lime, see *Lime.*
— Marl, application of, 119
— Mineral, experiments with, 172, 227
— Mineral and Saline, 176
— Night Soil, how prepared, 174, 266, 351
— Peat, use of, 323
— Plaster, use of, 50, 60, 109
— Preparation and application of, 109
— Preservation of, 320, 341
— Refuse of Glue Factory, Fish, &c. 114
— Refuse of the Tannery, 246
— Remarks on, 154
— Saving, best method of, 342
— Salt, 43, 372
— Saline, on Indian Corn, 58
— Sawdust, 82
— Urine, see *Urine.*
— Use of Muck in Barn Yards, 359
Manuring—New System of, 281, 369
— Surface and Drill, 56
Maryland, Crops in, 274
Massachusetts Premium Farm, 341
— Agriculture of Eastern, 19
— Society for Promotion of Agriculture, 181
— — Officers of, 203
— — Cattle Show of, 339
Meat, methods of curing, 374
Medals for Ag. Societies, 85
Michigan, Agriculture of, 177
Mildew, Soap Suds a preventive, 172
Milk, Rich, 97, 230
Millet, culture of, 182
Mills, Hand, inquiry about, 227
Mississippi, Agriculture of, 83
— Exhibition at Washington, 11
— Letters from, 265, 278
Mitchill, Dr. S. L., labors in behalf of Agriculture. 248, 290, 317
Model Farms, 370
Moles, to destroy, 203, 209
Molasses, Maple, 169
— from Corn Stalks, 150
Monroe Ag. Society, Fair of, 354
Mules, exportation of, 149
Muskete Grass, 83
Mustard, great crop of, 354

N.

Names of Animals. discussion about, 176, 221, 283
Nectarine, culture of, 254
Nest Eggs, to make, 22, 234
"Never lose any thing," 324
New country, first settlers of, 224
New-Brunswick, farming in, 145
Newcastle Ag. Society, 362
New-York State Ag. Society:
— Proceedings of Executive Committee, 13
— Proceedings at Annual Meeting, 51
— Award of Premiums on Essays and Crops, 51
— Officers of, 52
— Premium List for 1844, 53
— Resolutions on Death of Mr. Gaylord, 138, 146
— List of Judges for Fair, 235
— Preparations for Cattle Show, 273
— Account of Cattle Show, 312, 335, 383
— List of Premiums awarded at do. 325
— Meeting for 1845, 363
New-York Ag. Institute, 274
Niagara Falls, power of, 345
Night soil, methods of using, 174, 266, 351
Nitrates, explanation and value of, 174
Nitrogen, use of, 174
Northampton Ag. and Hort. Soc. 11, 82
North Carolina, a good Sheep Country, 148
— Soil, Climate, &c. of, 220
Nova Scotia, Farming in, 186
Nut Grass, described, 27
— Enquiry about, 141
— to destroy, 58, 60, 160, 353
Nutrition, elements of, 174

O.

Oats, quantity per acre, 49, 50
— Premium Crop, 51
— Amount grown in New-York, 110
— culture of, in S. Carolina, 390
Obituary Notices—of H. D. Grove, 118
— of Mrs. Mary S Tucker, 118
— of Willis Gaylord, 137
— of J. C. Loudon, 86
— of Dr. Sam'l L. Mitchill, 248
— of Van Mons, 86
Olive, culture of, 188, 297
Onions, potatoe, 349
— Anti-magnetic property of, 216
Orchards—Clover not injurious to, 15
— Method of Planting, 38
— Notices of Mr. Pells', 46, 82, 107
— Management of, 38, 101
— Remarks on pruning, 130
— Profits of, 132
— Rye injurious to, 163
— Six reasons for planting, 164
— To Destroy Caterpillars in, 164, 197
— How to plow, 218
— Time for pruning, 316
Ornamental grounds, plan of, 121
— Gardening, 257
Ox, value of, 342
Oxen and Horses, comparative value of, 366

P.

Paris, statistics of, 366
Parsneps, premium crop, 94
Partner wanted, 144
Pattern Farm recommended, 87
Pea and Bean Straw, value of, 182
Pea and Pea Bug, 372
Peach Trees—Charcoal for, 197
— Rye and small grains injurious to, 69
— Ashes to be applied to, 69
— to kill the Borer in, 197
— Culture of, 202, 254
— Diseases of, 255
— New mode of pruning, 299
— The Allen, 352
Peach Stones—Time for planting, 319
— Vegetating after 30 years 164
Pears, figures and descriptions of 5 kinds, 36
Pear Trees—on the culture of, 162
— Select varieties of, 162
— Early Seedling, 207
— Remedy for blight in, 230, 305
— Fire blight on, 162
Peas—Premium crop, 51
— To have green in winter, 68
Peat, use of as Manure, 323
Pennsylvania, Farm Lands of, 183
Peppermint, to destroy, 140
Pepperidge Timber, value of, 358
PERIODICALS—American Q. Journal of Ag. 301
— American Masonic Register, 370
— American Farmer, 330

Periodicals—Blackwood's Magazine, 61
— British American Cultivator, 117
— Central N. Y. Farmer, 117, 361
— Canadian Ag. Journal, 117
— Connecticut Farmer, 374
— Lowell Offering, 78
— Maine Farmer, 42
— Medico Chirurgical Review, 118, 266
— Michigan Farmer, 170
— North American Review, 42
— New Genesee Farmer, 117, 362
— Northern Light, 170
— New England Farmer, 239
— N. Y. Farmer and Mechanic, 239
— Prairie Farmer, 117
— South Western Farmer, 11, 362
— Simmond's Colonial Magazine, 117
— Tennessee Agriculturist, 203
— The rk, 368
— The Gavel, 372
— The Plow Boy, 239
— Valley Farmer, 239
— Western Farmer and Gardener, 117
— Western Cultivator, 117
Pigeon Weed, to destroy, 176
Plaster, see *Manures*.
Plowing Machine, Wierd's, 345
— Subsoil, recommended, 41, 85
Plows—Notices of Sub Soil, 11, 19, 67
— Ransom & Wilkie's, 44
— Burrall's Sheel Wheel, 81
— Cast Iron Beam, 89
— Langdon's Cultivator, 104
— Sinclair's Patent Wheel, 112
— Ruggles, Nourse & Mason's, 136
— Center Draft, 161, 192, 201, 222, 257, 269
— Bergen's, 192
— Coulter and Shovel, 209
— Codding's American, 351
— Woodcock's self sharpening, 376
— Trial of, in England, 269
Plumb Trees—Culture of, 294
— Select varieties of, 294
— Oil injurious to, 38
— Culture of, by Mr. Denniston, 306
Political Economy, 260, 292
Pork, how to pickle, 333, 374
POTATOES—Remarks on disease in, 10, 20, 42, 171, 302, 330, 371, 373 376
— — in England, 228, 300
— — in Europe, 334
— to raise from Seed, 10
— Proper time for digging, 15
— Experiment with, 41
— Culture of by Mr. Noble, 44
— — by Mr. Rich, 98
— Mercer or Chenango, 50
— — History of, 148
— Premium crop, 51
— to Preserve through Winter, 61
— to raise Early, 31
— Plaster for, 177
— Machine for digging, 199
— The Carter, 236
— Do not require much hilling, 206
— Choice Early, 329
Poudrette—Value of, 65, 96
— Experiment with, 203
POULTRY—Dorkings, 11, 321, 329
— Hatching Chickens by Steam, 11, 145
— Profits of, 12, 57, 153, 391
— to Caponise, 12
— Nest Eggs, 22, 234
— New domestic Fowl, 43
— Crested Fowls, 57
— Management of, 146, 321 391
— Disease in, 239
— Gapes in Chickens, 305
— Poland, 57, 321
— Best food for, 331
— Two Chicks from one Egg, 335
Premium Farms—see *Farms*.
Products of the year 1844, 371
Pruning, Illustrations of, 130
Pumpkins—culture and importance of, 160, 363
— Culture, use and preservation of, 266

Q.

Queens Co. Ag. Society, 377
Quince, culture of, 195

R

Rabbits, on breeding, 343
Rake, Cram's Drag, 266
Raspberry, culture of, 217
— The Black, 293
Reaping Machines, 107
— — Hussey's, 386
Reclaiming Bog Lands, 236, 271
Red Root, to destroy, 176
Reflection, more needed, 140
Rensselaer Ag. Society—Annual meeting of, 76
Rensselaer Ag Society, Fair of, 337
Rensselaer Institute, notice of, 337
Rhubarb or Pie Plant, 100
Rice, improved variety of, 50
Robinson, Solon, letter from, 92
Roads—Remarks on repairing, 129
— Importance of good, 289
— Made of Plank, 309
Rock River Country, 295
Roots of Plants, detruncation of, injurious, 154
Rotation of Crops—see *Crops*.
Royal Ag. Society, Fair of, 268
Ruta Baga—Premium crop, 51
— Culture of, 56
Rye—Premium crop, 51
— Culture of, 140, 275, 390

S.

Saleratus, a substitute for Saltpe- 345
tre, 345
Salt as a Manure, 43, 372
— Marshes reclaimed, 303
— protection against worms, 109
— to refine for Butter, &c. 318
— in curing Clover 387
Scientific exchanges for Farmers, 288
Seed, quantity per acre, 369
— steeping, 281, 369
Seeds, depth of covering, &c. 180
Seekonk, Agriculture of, 221
Shade Trees, 289, 306, 389
SHEEP—At the South, 84
— Country, the best, 148
— Challenge to Mr. Collins, 282
— — Reply to, 297
— Ewe with 44 lambs, 147
— Experiments in feeding, 181, 280
— Fat, 109, 164, 182, 325
— Good in Vermont, 113
— Going to the Prairies, 358
— How fed by Mr. Noble, 44
— Horn on ear of, 169
— Injured by Clover, 192
— Large flocks in Scotland, 267
— Leicesters at Smithfield Market, 85
— — Major Reybold's, 239
— Management of, by Mr. Johnston, 140
— — by Dr. Beekman, 184, 236
— Marking, German mode of, 158
— Merinoes, different varieties of, 74
  — Col. Randall's, 25, 239, 358, 378
  — Early importation of, 176
  — Importations of, by Mr. Jarvis, 106, 126
  — — by Col. Humphrey, 251
  — — by others, 338
  — Mr. Blakeslee's. 338
  — Mr. Bingham's, 298
  — Mr. Sandford's, 280
  — Saxon, 202
— on the Highlands of Scotland, 230
— Paular Merinoes, by Col. Randall, 25
  — Correction of, 66
  — Mr. Jewett's, 25, 66
  — Mr. Avery's Improved, 62, 280
  — Mr. M. Bingham's, 75
— Points of a good, 39
— Principles of breeding, 214, 350
— Prolific, 147, 234
— Raising Lambs for the Butcher, 75
— Rot in, 228, 261
— Ram letting in England, 268, 335
— Racks, 275
— South Downs and Cheviot, 85
— Saxons, Mr. Groves', 144, 252
  — sale of, 362
  — and their crosses, 350
— Shelter for, 234
— Sales of, in England, 335
— Time for shearing, 199
— Ticks, to destroy, 358
Shepherds' Dog, 49
Shingles, Cedar, durability of, 247
Silk culture, progress of, 14, 134
— Worm's Thread, length of, 24
— Bounty in Tennessee, 112
— Made in Chautauque co. 26
— Manufacture in Ohio, 17
— — in Indiana 21
— Growers, encouragement to, 330
Smithfield Cattle Show, 55
— Market, animals sold at, 272
Smut in Grain, 367
Soils—Analysis of, 309
— from Alabama, 145
— Improvement of boggy and wet lands, 34, 236, 240, 271
  — of clay and sandy, 87
  — of worn out, 60, 344
  — of clay, 143
  — of sandy loam, 273
— to detect acid in, 235
Soils, sour, remarks on, by N. Darling, 90
  — by A. J. P., 190, 253
  — by J. J. Thomas, 223, 279
  — by Acetocella, 318
Soiling animals, economy of, 108, 162, 250
— Cornstalks for, 256
Sowing Machine, 268
Spade Husbandry, 369
Spaying Cattle, 357
Spinning on Boston Common, 358
Spring Work, 81
Squash—Valparaiso 321
Stock going West, 18
— Improvement of, 189
— Importance of warmth and quiet to, 47
— Keeping, in Winter, 59
— Remarks on wintering, 21
Stone Walls, 34
Stoves, their deleterious effects, 352
Straw Cutter, Botts', 35
— Hovey's and others, 363
— Sanford's, 383
Straw, value of, 140
Straw Band Maker, 216
Strawberry—culture of, 163, 247, 355
— select varieties of, 355
— Winter killed, 203
— Winter protection for, 358
Study on the Farm, 319
Stump Machine, the Vermont, 64, 223
Sub-soil Plows, 11, 19, 67
— plowing recommended, 41, 85
Sugar—from Cornstalks, 58, 150
— Making, from Cane, 11
— Maple, to make superfine, 22
— Furnace for boiling sap, 22
— Fine specimens of, how made, 169
— From Cane and Cornstalk, 223
Sugar Cane, culture of, 13
Sugar Beet, premium crop, 94
Sulphates of Ammonia, Soda, &c. 227
Swine—Large, 11, 13, 15, 42, 43, 75, 102, 107
— Rapid fattening of, 12
— Remarks on fattening, 14
— Prize breeds in England, 38
— Remedy for barren Sows, 23
— Thumps in, cure for, 150
— Berkshire and Sand Hill, 206
— Cooked Food, best for, 340, 359
— Management in fattening, 359
— Diseases of, 274
— when profitable, 268
Symphytum or Comfrey, 225

T.

Tables—of mineral manures, 172
— Comparative value of different kinds of Food for Animals, 175, 372
— Amount of Food consumed by different Animals, 175
— Constituents of Night Soil, 174
Talk about farming, 108
Tea, culture of, 140
Tea kettles, to prevent coating, 266
Temperature, effects of, on Vegetation, 45
Tennessee, farming in, 202
— letter from, 300
Things of importance, 20
Thistles killed by Salt, 147
Threshing Machines, Pitt's, 75
— Burrall's, 141
— Hall's, 344
— Warren's, 264
— Taplin's, 377
Tillage, experiment in, 298
Toads, usefulness of, 259
Tobacco, culture of, in Ct. 89
Tomato, culture of, 100
Trees—Planting in Autumn, 332
— should be set out on road sides, &c. 289
— For shelter and ornament, 306, 389
Turkies, on rearing, 123, 141
— Wild, for sale, 329
Turneps, new variety, 116
— Culture of, 172, 246
— as green crop for Manure, 43
— Fly, ravages of, prevented, 210, 246

U.

Upas Tree, 229
Urine—Value of, 111, 270
— From one Cow, 335
— Good way of saving, 202

V.

Van Mons, Death of, 86
Vegetable Cutter, 82
- Food, comparative value of different kinds, 175, 372
— Nutrition, 307
Vermont Cattle Shows, 331
— Farm, produce of, 191
— Law to aid Agriculture, 11

Vineyards, Dr. Underhill's, 46
Virginia—Farming in, 78, 336
— Lands of, 63
— Inducements to emigrate to, 376

W.

Walls, to prevent dampness in, 141
Washington, Miss., Fair, 203
Water, influence of, on soils, 375
Weather—Notices of, 141, 143, 170
— and Crops in England, 147, 245, 334
— in Ohio, 203
Western Farming, 9
— Tour, notes of, 205
— Lands, natural fertility of, 115
WHEAT—Black Sea Spring, 75, 141, 336
— Culture of, 275
— — by Mr. Geddes, 49
— by Mr. Noble, 44
— by Mr. Peck, 58
— in Southern counties, 185
— Crop, effects of Winter on, 143
Wheat Crop—Prospects of, 170
— Constituents of, 110
— Egyptian, 205
— Experiment with, 366
— Gen. Harmon's samples, 106
— Grown in this State, 110
— — at the South, 320
— Harrowing in the Spring, 74
— Harvesting, proper time for, 189, 202, 282
— in Vermont, 284, 298
— Injured by Fly, 233
— Insects in, 229
— — injurious to, 243, 266
— Large Crops, 234
— Premium Crops, 51, 74
— Quantity per Acre, 49, 50
— Rust in, 215
— Smut, remedy for, 39, 272, 367
— Spring, culture of, 118
— Sown in Drills, 246
— To cleanse from impurities, 140
Wheat—To extract Chess from, 324
— Will not turn to Chess, 66
White Daisy destroyed by Sheep, 194
Willow, swamp, culture of, 125
Windham Co. Vt. Fair, 331
Windmill, Parker's, 202
Wire Worm, protection against, 106
Wives and Daughters, 363
Wood Lands, management of, 332
Wool—Heavy Fleeces, 26, 62, 67
— Demand for Long, 49
— Philosophy of, 61, 95, 128, 156, 193, 261
— Mr. Lawrence's letters about, 48, 112
— Samples of, 233, 265, 331
— Comparative shrinkage of Saxony Merino, 157
— Prices of, 270
— On the Yolk of, 285
Woolen Factories at Lowell, 285

Y.

Young Men, hints to 20

INDEX TO CORRESPONDENTS.

NEW-YORK.

A. B. C. 194
A Back Woodsman, 224
A Cayuga Farmer, 66
A Farmer, 279, 357
A Farmer's Wife, 289
A Female Reader, 198
A Friend to Improvement, 289
A Housekeeper, 385
A Hearer, 324
A. J. P., 190, 253, 283
Akerly, Samuel, 13
Allen, H. P. & G. 133
Allen, L. F. 158
Anthony & Morrison, 89
A of the North, 163
A Practical Farmer, 63, 93, 160, 187, 220, 323.
A Subscriber, 42
Avery, R. A. 62, 280
A Wool Grower, 112
A Working Man, 202
A Young Farmer, 87
Badger, J. A 363
Beckwith, G. L. 107
Beekman, J. P. 184
Bement, C. N. 41, 101
Bement, George, 57
Betts, F. J. 58
Bremen, Henry, 363
Brutus, 221
Burrall, T. D. 12
Butler, F. M. 372, 387
Butler, G. 151
C. 189
C. D., 377
Chace, J. 256
Chapman, H. T. 11
C. M. A. J. 176
Codding, M. D 295, 351, 352
Curtis, D. S. 161
Downing, A. J. 36
D. T 35, 266, 291
Dutchess County, 82
E. R., 390
E. 164
Eastwood, Peter, 363
Emmons, E. 145
Eights, James, 379
Feuchtwanger, L. 227
Fish, A. L. 107
Frock & Trowsers, 140
Gardner, D. P. 274, 291
Geddes, George, 12, 16, 49
Hall, James, 259
Hallock, A. H. 42
H. A. P. 151, 177
Hardy, Phineas, 48
Hart, B. H. 107
H. C. C. 349
H. L. Y. 22
Holbrook, Josiah, 288
Horsford, E. N. 152
Howard, N. 234
H. S., 24
Hull, H. 141
Hyatt, T. H. 354, 362
Inquirer, 21
J., 257, 308
J. D. F., 330
J. G. B., 192, 257
J. G. W., 21
J. N., 227
Johnston, J, 134, 140, 153, 159
J. S., 227
Junius, 176, 283
K., 107, 154
Kentish, W. A. 96
Knevels, J. W. 97
Lee, Daniel, 47, 76, 94, 110, 171, 185.
Lewis, T. J. 238
Long Island, 142
M., 292
McCord, A. R., 151
Meigs, — 107
Miller, P. V. C. 192
Morrel, L. A. 61, 95, 128, 156, 193, 262.
Morton, C. F. 305
Naturalist, 257
Niven, T. M. 24
N. N. D., 35, 356
Parsons, H. A 321
Peck, S 58
Pell, R. L. 97, 140, 163, 183
Randall, H. S. 25, 138, 157, 282, 358, 378.
Redfield, W. C. 388
Reed, J. J. 298
Rho, 191, 227, 251, 320
Richmond, 33, 74, 87, 125, 248, 287, 290, 317.
Ryan, C. J. 202
Salt Point, 12
Sawyer, Conant, 87
Sewall, H. D. 217
Sheldrick, Arabella, 131
Smith, Jason, 96
Sotham, W. H. 32, 66, 150
Speed, J. R. 75
S. Y., 377, 380
T., 351
Tilden, M. Y., 107, 302
Thomas, J. J, 37, 61, 62, 68, 99, 120, 130, 153, 162, 195, 198, 217, 218, 223, 250, 254, 256, 266, 279, 282, 294, 295, 322, 327, 349, 353, 355, 386, 389.
Tomlinson, D. 38, 141
Tomlinson, C. H. 226
Tower, J. M. 337
Tyro, 389
Underhill, R. T. 132
W., 59
Wells, J. 161
Whalen, Seth, 259
Wright, Geo. 337
X., 221
Youngs, S. 234

MAINE.

Bates, James, 260
Georgius, 348

NEW HAMPSHIRE.

Rich, E. 43, 98, 225

VERMONT.

An Observer, 22
Bingham, A. L. 298
Bingham, Merrill, 75
D. J., 259
Doubleyou, 293, 319
Gilkie, W. R 107
Goodale, D. C. 191
Green, G. B. 107
G. S. P. 23
Hawes, S. N. 141, 191
H. T. C., 64
Jarvis, Wm. 126
Jewett, S. W. 66, 252, 284
L. F. B., 298
O. C., 96
Old Chittenden, 113
Northrup, E. H. 143, 171
Rich, Clark, 75, 226, 336
Sanford, W. R. 280
Stevens, Henry, 273
S. W. J., 159
Wait, F. M. 169

MASSACHUSETTS.

A Subseriber, 106
Coffin, Allen, 382
G. C. M, 22
Green, W. N. 392
Jabal, 70
Jackson, C. T. 371
Jennison, Wm. 221, 357
Lawrence, Samuel 48, 112
Ruggles, Nourse & Mason, 67
Thayer, Elisha, 217
Willard, J. 65

CONNECTICUT.

A Subscriber, 383
Baldwin, H. 12
Barber, J. C. 42
Blakeslee, J. N. 338
Boyd, John, 376
Brockway, S. M. 301
Brown, E. B. 238
Clark, C. B. 336
Collins, D. C. 297
Cowles, Richard, 122
Darling, Noyes, 90, 101
Durand, Levi, 15, 96, 160, 176, 201, 226, 352, 363.
K. L., 123
M., 62
Quercus, 176
Reynolds, Prudence, 153
Richardson, John, 238
Watson, Henry, 99, 122

NEW JERSEY.

A. R. D., 181, 292
Cassidy, Samuel, 129
Jonathan, 140, 164
T. C., 119

PENNSYLVANIA.

Centre Draught, 222, 265
Colfelt, Chas. 41
D. H. M., 226
Harlan, J. M., 10, 21, 216, 297, 298, 324.
J. W., 223
Kennedy, A. L. 155, 286
McDewell, J. H. 329
Paterson, Lewis, 150
Peterson, P, 183
Wiley, James, 205

DELAWARE.

Chambers, J. G. 202
J. P., 161

MARYLAND.

Acetocella, 318
C., 320
D., 318
Hussey, Obed, 107, 386
Index, 320
Physick, L. 23, 69, 154
S., 319, 321
Smith, G. B. 27, 251, 281, 293, 304, 307, 344, 372.

D. C.

Ellsworth, H. L. 31
J. F. C., 96
J. S. S., 59, 60, 141, 148, 151

VIRGINIA.

A., 376
A Virginia Farmer, 63
Beuhring, F. G. L. 74
Botts, C. T. 35
Loomis, Nathan, 63
McCoy, Wm. 70
Roby, H. R. 197, 336
Skinner, U. 102
Whitmore, D. T 45
Woodcock, B. 376

NORTH-CAROLINA.

A Subscriber, 227, 273
Chalmers, C. 74
Devereux, J. 336
Foreman, J. L. 107
Harris, Eli, 273
Mock, C 324
W. A. D., 220
Weller, Sidney, 56, 141, 336

SOUTH-CAROLINA.

R. W., 385

GEORGIA.

B. H., 157
Bonner, John, 14, 23
Camack, James, 188
Georgian, 69
J. D. H. 128

FLORIDA.

Baltzell, G. F 107, 292

ALABAMA.

A Subscriber, 141

Cloud, N. B. 28, 330
Cook, J. B. 216, 218
F. 145
McDonald, A. 43, 119, 300
Simpson, Lucius 75
Williams, John 226
* * *, 219

MISSISSIPPI.

Affleck, Thomas 60, 83, 278
DeBuys, Mr. 297
McCaughan, J. J. 265
Philips, M. W. 83, 124, 331
T. 270
Thornton, C. A. 266

LOUISIANA.

Hodge, A., Jr. 205
Tillotson, S. 58, 223

TENNESSEE.

Alpha, 21
Holmes, James, 202
Shanklin, Mr. 234
Vaughan, J. L. 13

OHIO.

Adams, Seth, 176
C. D., 285, 305, 345, 350, 358
Crawford, J. 132
H., 357, 377
Hall, C. H. 157
Hezlep, Geo. 84, 102
Marion, 67
N. W. C., 197
P., 65
V., 10, 11
Worthington, J. T. 26

MICHIGAN.

Hare, Levi H., 381
L—., 363
Leeds, Alex. 363

INDIANA.

Beal John, 150
Robinson, Solon, 92
Satter, J. W. 150
Weston, Henry, 141, 275

ILLINOIS.

Cyrus, H. A. 375
Ellsworth, Lewis, 170
W., 295

CHEROKEE NATION.

Hitchcock, Jacob, 160, 260

GREAT BRITAIN.

Colman, Henry, 267
Norton, J. P. 204, 245, 267, 334, 364.
Rotch, Francis, 85
Mitchell, D. G. 365

CANADA.

Hartman, L. 380
Inquirer, 133
Quercus, 102

NOVA SCOTIA.

Hamilton, C. C. 388
Old Nova, 186

WEST INDIES.

A Grenada Planter, 173
F. P., 353
Gov. Reid, 388

CENTRAL AMERICA.

Woniger, H. 144

UNKNOWN.

Americus, 140
A Subscriber, 15, 27, 74, 331
Boyle, James, 203, 231
Borden, R. S. 176
C. R., 164
Ellis, Peter, 102
Frank Farmer, 194
H. D., 91
Jonathan, 95
Mago, 160

INDEX TO ILLUSTRATIONS

CATTLE.

Mr. Vail's Meteor, 17
Group of, 88
Durham Bull Remus, 159

SHEEP.

Mr. Jewett's Fortune, 25
Mr. Sanford's Merino Buck, 280
Saxon Ram, 184
Mode of Registering, 158
Fibres of Wool, 193

English Cart Horse, 56

Shepherd's Dog, 49

POULTRY.

Poland Cock and Hen, 57
Gapes in Chickens, 305

GATES AND FENCES.

Mr. Willard's Gate, 65
Board Fences, 113
Improved do. 153
Sewell's Improved, 217
Moveable, 251

DOMESTIC UTENSILS.

Self Acting Cheese Press, 133
Galt's Churn, 207

IMPLEMENTS AND MACHINES.

Corn Sheller and Husker, 15
Vegetable Cutter, 82
Geddes' Harrow, 16
Sub Soil Plow, 67
Burrall's Wheel Plow, 71, 81
Sinclair & Co.'s do. 112
Cast Iron Beam Plow, 89
Cultivator Plow, 104
Centre Draft Plow, 161
Lewis' Seed Planter, 199
Coulter Plow, 209
Codding's Plows, 351
Wiard's Plowing Machine, 345
Hall's Threshing Machine and Horse Power, 344
Woodcock's Plow, 376
Taplin's Horse Power, 377
Smith's Corn Sheller, 381
Sanford's Straw Cutter, 383

BUILDINGS.

Dr. Lockwood's Cottage, 24
Thomas' Farm House, 120
Farm Buildings, 121
Prairie Farm House, 272
House and Horse Barn, 262
Horse Barns, 385

HORTICULTURAL.

Figures of Pears, 36, 37
Hot Bed Frame, 69
Ornamental Grounds, 121
Illustrations of Pruning, 130
Grape Training, 208
Budding and Budding Knife, 211
Grape Frame, 217
Peach Leaves, 254
Labels for Trees, 295
Trees gnawed by Mice, 386

INSECTS.

Apple Tree Worm, &c. 216
Injurious to Wheat, 243
Apple Tree Borer, 311

PLANTS.

Cotton Plant, 28
Kernel of Indian Corn, 153
Canada Thistle, 304

MISCELLANEOUS.

Furnace for boiling Sap, 22
Gearing for Bulls, 48
Bee Hive, 65
Straw Band Maker, 216
Draining, 240, 241 242
Views of Cattle Show, 312, 313

THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

Vol. I. ALBANY, JANUARY, 1844. No. 1.

THE CULTIVATOR
Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

WILLIS GAYLORD AND LUTHER TUCKER, EDITORS.

ONE DOLLAR A YEAR.

Seven copies for $5,00—Fifteen copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "The Cultivator," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 3, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE FARMER'S MUSEUM,
(*Each no. containing* 16 *pages*,)
Is made up of selections from this paper, and published monthly at 50 cents a year—Fourteen copies for $5,00—Thirty copies for $10.

THE CULTIVATOR.

TO THE PATRONS OF THE CULTIVATOR AND MUSEUM.

Custom permits us (and the permission in this case is in perfect consonance with our inclination,) the privilege of addressing, at the opening of a new year and a new volume, the friends and patrons of our journal. We wish to seat ourselves by their social fireside, and embrace the occasion to exchange with them our cordial gratulations, and indulge in a free intercourse of feelings, interests and prospects. We wish to speak to such, as we consider them, as co-laborers and friends; and in addressing whom, we feel assured that our gratulations and kind wishes will be fully reciprocated.

With the past, we are acquainted; the future is yet before us, and unknown; but you will permit us to say, that in looking back over our editorial career since we engaged in the cause of agriculture, we feel a great pleasure in the consciousness of having, in the main, succeeded in our efforts, and in finding the most unquestionable evidence that our labors have been kindly received, and our efforts welcomed by those whom we have endeavored to benefit. We have endeavored, to the best of our ability, to place before our thousands of readers, topics which would interest, which would rouse to emulation and effort, and guide those efforts to a successful issue. Believing as we do, that every man is responsible to the public for the manner in which he manages the property of which a kind Providence has made him the steward, we have been anxious that our farmers should understand their privileges and their true position, and act accordingly. Every man exercises an important influence in society, and he should feel that, as he wields this influence for good or ill, so his existence will be a blessing or a curse to the community. We have been anxious to convince all, that knowledge—knowledge of mankind, of himself, and in particular of his professed business, was essential to success in any pursuit, and that ignorance and successful agriculture were incompatible. We have endeavored to enforce the necessity of industry, and to show that honest labor can never be disreputable: On the contrary, the only honorable man is he who earns his own bread by honest industry in some useful pursuit. Industry is a blessing, not a curse. God ordained that with the sweat of our brow we should earn and eat our bread, but he has wisely ordered that from this necessary industry shall flow our choicest blessings. To be satisfied of this, we have only to compare the situation, intellectual, physical, and moral, of those who reside where nature spontaneously produces all that is required to support life, with that of those who in less genial climes are forced to labor for their bread. The former must always succumb to the latter; one does but vegetate, the other lives.

As farmers, we have abundant cause for congratulating each other; not that the crops of the past year have been excessive, but because they have been abundant and good; not that prices have run up to the inflated height they reached a few years since, but because they have greatly improved since that disastrous reaction, are firm, and generally remunerating. The resources of our noble country are every year more and more developing themselves. Spreading over such a vast extent of country embracing so many varieties of soil and climate, partial failures of crops may indeed occur, but such a failure as shall seriously affect the aggregate amount, or endanger the bread of the nation, is scarcely possible. Providence seems to have placed our destinies in our own hands; on our faithful discharge of devolved duties, all is depending. It is in the power of the farmers of this land to convert it into one vast garden, to make it the granary of the world. Let us see that while prosperity advances, the mind does not suffer; that while riches increase, the man, the immortal, is not neglected.

With the favor with which our agricultural publications have been received, we have every reason to feel gratified: and while we continue in good faith and untiring zeal to present the farmers of our country such a journal as their wants and the interests of agriculture de mand, we have not the slightest apprehension of ever being compelled to complain of a withdrawal of their confidence or their patronage. We have been friends and co-laborers too long; we are too well acquainted with the wants and wishes of each other, of what is desired and expected, to have the most distant fear on that score. We feel, that for the success of our labors, much, very much, is due to the many intelligent farmers and kind friends who have been with us from the beginning, and made our journal the record of their experience, and the repository of agricultural facts. Names, new and old, now pouring in by thousands, and the masses of communications from an increasing list of correspondents, prove, that amidst the crowd of competitors for public favor, and of co-laborers in the broad field open for the diffusion of agricultural knowledge, the Cultivator still retains its high place in the affections of the tiller of the soil. All are welcome, and we rejoice in the circulation of our journal, and feel grateful to all who promote it; because in that circulation. we think we see proof that agricultural inquiry is extending, and a brighter day beaming on the prospects of patient, but honest, untiring industry, in our land. We close these remarks by expressing the hope that the friends and patrons of the Cultivator, will find our mutual intercourse for the coming year, as pleasant as that of the past, and wishing all readers a successful, prosperous, and happy New-Year.

MONTHLY NOTICES.

☞ THE public are here presented with our annual OFFERING, the first number of a new volume. The change of form, the improved typographical execution, and the superior style of the illustrations, we doubt not will meet with general approbation. An examination of the contents of this number, and a comparison with preceding ones, will show that the intrinsic value of our work is in no way diminished, and we pledge our renewed and unremitting exertions, to continue it worthy of the encouragement it has heretofore liberally received.

To our friends whose influence has extended the circulation of the Cultivator, and to those, also, who by their pens have contributed to its usefulness, we tender our sincere thanks, respectfully soliciting a continuance of their favors; and to all our patrons, we cordially tender the compliments of the season.

☞ WE have great pleasure in announcing to the patrons of the *Cultivator and Museum*, that we have associated with us in the general management of these papers, Mr. SANFORD HOWARD, who for some years had charge of the "Agricultural Department" of the Zanesville (Ohio) Gazette. A practical farmer from his youth —a close and accurate observer, intimately acquainted with the husbandry of the different sections of our country—a good judge of farm stock, and familiar with all the best breeds among us, his connection with our paper can scarcely fail to add to its usefulness and to increase its claim to public favor.

☞ OUR readers, we doubt not, will rejoice to see the commencement of a series of articles on the Culture of Fruit, in this number, which are to be continued through the year. They are from the pen of JOHN J. THOMAS, of the Macedon Nursery, than whom there are few persons in our country better qualified for the task he has undertaken. The series will embrace every variety of fruit, and will alone be worth the price of our paper.

ACKNOWLEGMENTS.

COMMUNICATIONS have been received since our last, from Geo. Geddes, V., Samuel Akerly, H. S., G. B. S., H. S. Randall, Alpha, N. B. Cloud, Salt Point, H. T. C., J. J. Thomas, Elisha Thayer, Richmond, A. J. Downing, Young Farmer of Greene County, D. Tomlinson, H. L. G., A Farmer, W., D. T., C. T. Botts, A Daily Laborer, Thomas Affleck, J. S. Vaughan.

We are indebted to P. L. SIMMONDS, foreign newspaper agent, London, for a copy of Johnson & Shaw's *Farmer's Almanac* for 1844—(we shall be greatly obliged if Mr. S can forward us a copy of this Almanac for 1841) —also for copies of the Pictorial Times, Essex Standard, Sussex Agricultural Express, and other papers—for copies of "The Legion of Liberty," to J. R. AMES, Esq. —for copies of Mr. JOHNSON's Address before the Oneida Ag. Society; Prof. RICHARDSON's to the Ag. Society of Ohio and Brooke counties, Va.; Mr. WILLIAMSON's to the Ag. Society of Fayette co., Tenn., to some unknown friends—to Col. J. W. LINCOLN, for the Transactions of the Worcester Co. Ag. Society for 1843—to T. Affleck, Esq. for the Concordia Intelligencer—to E. COWLES, Esq. for Conn. Courant—to J. J. THOMAS, and some one else, for copies of the Wayne Standard.

ILLUSTRATIONS OF THIS NUMBER.

☞ WE think the Illustrations of this number greatly exceed any previous no. of our work. For the design for the head, we are indebted to our friend, J. J. THOMAS, to whose beautiful drawing, our engraver, Mr. N. ORR, whose card will be found in this paper, has done justice. We have also to thank Mr. N. Orr, for the faithful manner in which he has transferred to the block, the beautiful drawings of the Cottage furnished us by T. M. NIVEN, Esq. architect, of Newburgh; and we take this occasion to commend him as a young artist who gives promise of attaining a high rank in his profession. The Cotton Plant was engraved by J. H. HALL, and the Bull and Sheep by J. W. ORR, both well known and superior engravers.

GREAT YIELD OF BUTTER.

Mr. GEORGE A. MASON, of Jordan, Onondaga county, received the first premium of the New-York State Agricultural Society, at the exhibition at Rochester in September last, for the best cow for dairy purposes. From the 7th June to the 6th July—30 days—there was made from the milk of this cow, 67½ lbs. of butter. During the first 14 days of that time, 35 lbs. butter were made, averaging 2½ lbs. per day; and it is believed as great a ratio would have been given for the whole 30 days, had not the weather turned very unfavorable. The cow's keeping, during this time, was 4 qts. wheat bran and 2 qts. ground oil-cake daily, in addition to pasture feed. She was called a "native," but the gentleman who sold her to Mr. Mason informs us that she was got by a bull owned and imported by Captain Talcott, of Skaneateles. Will our friend Fuller of Skaneateles, give us the history of this bull ?

REARING COLTS.

A correspondent, "V." of Ashtabula county, O., says: "I have been recently informed, by a person who has resided some time at the west, that in raising horses for the Santa Fe trade, and whenever great power of enduring hardship is required, a course very different from that pursued by Yankees, is adopted, viz: they feed to a colt the first winter some thirty bushels of oats; the second, twenty bushels; the third, ten; the fourth winter less still, or none at all. Which is the best course; that of our fathers, or the one just described ?"

DISEASE OF THE POTATOE.

WE make the following extract from a private letter of DAVID THOMAS of Cayuga county:—"I am inclining to the opinion that the new malady in the potatoe, is a *fungus*, converting the wholesome nutriment of that tuber into its own deleterious nature. Potatoes which are not rotten, but only clouded with brownish spots, give off a very offensive odor when boiled, which I believe no common potatoe, when rotting, ever does. The opinion is not entirely unsupported by analogy. The smut in wheat may be cited as one case; and perhaps the fungus that destroys the roots of the saffron crocus in England, as another."

POTATOES FROM SEED.

OUR correspondent, J. M. Harlan, Esq., gives the following directions for raising potatoes from the seed,or ball. We can show some fine samples of potatoes raised in this way, that we have just received from Massachusetts:— "The pulp of the balls should be squeezed out as much as possible. They should then be dried and laid by till the following spring. The ground should be partially spaded, and well pulverized. I placed mine along the pales of the front part of the garden. The bugs are the greatest enemies of the young plants, and should be well watched. The potatoes will not come to their full size until the third or fourth year of planting. I had at least seven distinct kinds, of various shapes and colors, among the potatoes produced from the seed."

SUB-SOIL PLOWS.

OUR correspondent "V.," of Ashtabula county, O., in making some inquiries about sub-soil plows, says:

"Will Ruggles, Nourse & Mason's sub-soil plow work in a soil where two or more yoke would be required to draw it? * * * Sub-soil plows must eventually be introduced extensively on the Western Reserve. The soil is generally far from being light and easy to work. Below the tilled surface, an impervious sub-soil retains the water, much to the injury of most cultivated plants. Grass is at present almost the only certain and abundant product of this region, generally."

We have no doubt that the use of the sub-soil plow would be found advantageous in the kind of soil above mentioned. In another part of this paper will be found an article which contains the information called for, in regard to R., N. & M.'s sub-soil plows. The other matters mentioned in V.'s letter will receive attention hereafter.

SOUTH-WESTERN FARMER.

If we have done injustice to this paper, as complained of, by "N. G. N.," it has been through inadvertence. If we have referred to articles from it, as "from an exchange paper," it has been because we have found them in some other paper, without credit; and we take this occasion to say, that the *South-Western Farmer*, ranks with our best agricultural papers, having for its editors, our friend Dr. PHILIPS of Log Hall, and J. JENKINS and N. G. NORTH. It is published weekly in quarto form, at Raymond, Mississippi, by North & Vance, at $3,00 a year, or two copies for $5,00.

CULTURE OF TOBACCO.

On this subject we have received a valuable Essay, from J. S. SKINNER, Esq., Washington City, which shall have a place in the course of the winter.

SALTING HAY FOR STOCK.

MR. I. CARTWRIGHT, states in the Boston Cultivator, that he has found salted hay to be very injurious to his horses—they became "broken winded." He sold two tons to a neighbor who kept a horse and cow, and by the time the hay had been expended, his neighbor's horse was as badly affected as his own. We have no doubt that to oblige animals to eat more salt than they would naturally choose, is productive of injury, and as a *general* practice we would not advise the curing of hay with salt. Sometimes it may happen that a load is unavoidably put up with too much dampness in it, and in such a case salt may be properly used to prevent its being damaged; but animals should not be confined to hay so cured.

HATCHING CHICKENS BY ARTIFICIAL HEAT.

WE learn by a letter from H. T. CHAPMAN, Esq., of New-York, that a gentleman has commenced the business of hatching chickens by artificial heat, and is now getting 5,000 a month, and calculates, when in full operation, to increase to 20,000 per month.

DORKINGS.

Mr. CHAPMAN, whose Dorkings have heretofore been noticed in the Cultivalor, informs us that he has just received from England, four hens and a cock of this variety; very fine birds, pure white, selected for him at Dorking by a very good judge.

"CALICO CORN."

Mr. A. W. TOWNSEND, of New Brighton, Pa., gives an account in the Farmers' Cabinet, of a new variety of corn to which he gives the above name. He states that the flour from it, makes bread that a person who knew nothing about it, would at once pronounce wheat bread. He sent one and three-quarter bushels of this corn (weighing 72 or 73 lbs.,) to mill, and had 30 lbs. superfine and 20 lbs. of common flour, with 21 lbs. of bran. It came from Oregon. Will Mr. Townsend send us a sample of this corn?

LOUISIANA SUGAR.

A gentleman of New-Orleans has invented some new processes in the manufacture of sugar, which promise to add greatly to that valuable article. His process adds 25 per cent. to the sugar obtained, and saves the whole expense of fuel for grinding and evaporating. The apparatus now in operation turns out 12,000 lbs. daily. The Bee estimates the amount of saving in fuel, and the increased value of the product, at ten millions of dollars annually to the state.

EXHIBITION OF FRUITS.

THE Report of the Committee on Fruits at the exhibition of the Worcester co. (Mass.) Ag. Society in Oct. last, says that there were "over *one thousand* samples of fruit entered for exhibition by sixty-three different individuals, all residing in the county, with the exception of six or seven, and by far the greatest proportion of them in Worcester and the towns adjoining; and of this vast number of entries, there were very few, if any, lots offered that would not be creditable to any exhibition of the kind."

PRODUCTS OF PREMIUM COWS.

E. T. Forbes took the first premium at Westboro, Mass. for a cow of common breed, which fed on pasture feed only, gave an average of 16¼ quarts per day in June last, and on trying her milk repeatedly, it was found to yield 2 lbs. of butter per day.

Thomas Cowles of Farmington, Conn., took a premium last fall, for a cow 6 years old, from which 12¾ lbs. butter was made in 7 days. Wm. L. Cowles took a premium at the same show for a *two years old* heifer, from which was made in 7 days, 9 lbs. and 10 oz. of butter. Both these trial were made in the month of *October*, and the keeping of the cows "ordinary grass feed" only.

HORTICULTURAL ADDRESS.

WE desire to express our thanks to J. S. SKINNER, Esq., for a copy of his very interesting, classical, and instructive address, delivered to the Horticultural Society of Washington, D. C., and we assure him that nothing but want of room prevents us from transcribing a considerable portion of it to our columns.

SUCCESSFUL COMPETITION.

AT the Cattle Show of the Cortland County Ag. Soc., held on the 3d of Oct. last, H. S. RANDALL, Esq., Corresponding Sec'y of the New-York State Ag. Society, carried *ten* prizes on stock of various kinds.

LEGISLATIVE AID TO AGRICULURE.

WE notice that the Legislature of Vermont, at its late session, passed an "Act to encourage and promote Agriculture," the provisions of which are similar to that of this state and Massachusetts. We hope soon, therefore, to see Ag. Societies organized in each county of that state.

AGRICULTURAL EXHIBITION IN MISSISSIPPI.

THE Concordia Intelligencer gives the particulars of the exhibition recently held at Washington, Mississippi. Mr. Thomas Affleck, formerly editor of the Western Farmer and Gardener, delivered an address on "The Nature and Structure of Plants, with reference to Practical Horticulture," which it is said was "listened to with great attention and interest." The exhibition, in all its departments, seems to have been well filled. In the domestic and household manufactures, we should think, from the account, that the exhibition was highly creditable. The premiums in this class, we notice, were decided by *ladies*—an excellent plan in our opinion.

☞ LEWIS BRUSH received a premium of the Suffolk County Ag. Soc., (this state) for having raised 405 bushels of corn on three acres of land.

FINE HOGS.

THE Zanesville Gazette says that George W. Gibbons, of that place, lately killed four hogs, the oldest 19 mos., the youngest not quite 13 mos. old, whose aggregate weight was 2,042 lbs.—or 515½ lbs. each. They were a cross of the Leicester breed.

Agricultural, Horticultural, and Floral Society, in Northampton, Mass.—This Society, which has been lately formed, will, we doubt not, be productive of great improvement in the arts to which the united and individual efforts of its members are directed, and we confidently anticipate from it some highly interesting and useful results.

PREMIUM FOR THE BEST FIVE ACRES OF COTTON.

Our friend Affleck, of Miss., makes, through the Concordia Intelligencer, the following proposition:

"Let all who are willing to put to the test of experiment, *a rotation of crops, deep plowing, a sufficiency of manure, choice seed, and additional distance to the plant,* give in their names, and pay over five dollars to the *Treasurer of this Society,* (Adams Co. Agricultural Society,) the whole sum thus paid, to be, by him, and the President, laid out in the purchase of a piece of *silver plate,* which they shall award to the planter, so subscribing, who shall *during the next season,* give the necessary proof that he has *picked and ginned the greatest quantity* of *good* clean cotton, from FIVE ACRES OF LAND, planted and tended in such manner as he may have seen fit—tendering along with such proof, a clear statement of the entire process *in writing,* which each competitor binds himself to do when he enters for the sweepstakes."

We rejoice to see this proposition. It cannot fail to have a beneficial effect, by rousing a spirit of inquiry on the subject, which we doubt not, will eventuate in a very decided improvement in the culture of this important staple.

In our next, we shall give an account of Mr. Affleck's crop of the present year, together with a letter from him, received too late for this month.

RAPID FATTENING OF A PIG.

It is sometimes asked, what is the greatest gain per day that can be given to a pig in feeding? but it is evident no satisfactory answer can be given, as much must be depending on breeds, food, treatment, &c., and it is probable the best of all these, are rarely, if ever, united. The following statement made to us by Mr. GEDDES, of Camillus, Onondaga Co., furnishes proof that a pig may, by good treatment, and good food, be made to take on fat far more rapidly than is generally supposed.

Mr. GEDDES purchased on the 29th of July a pig weighing 177 lbs. live weight. He was pastured until the 1st of September, 33 days, and allowing a gain of 1 lb. per day (a liberal allowance) his weight at that time, when fattening commenced, was 210 lbs. On the 11th of December he was killed, and his weight, dressed, was 442 lbs. If we allow one-fourth as the loss of weight, he would have weighed, living, 552½ lbs. From this, deduct his weight on the first of September, and it leaves 342½ lbs., as his gain in 101 days. This gives a gain per day of 3 lb. 6 oz. and a fraction. His food was barley-meal, and his consumption about a peck per day.

If any of our friends have succeeded in a greater per diem gain than this, we should be pleased to learn the particulars.

BUCKWHEAT AS GREEN MANURE.

MESSRS. EDITORS:—I have a piece of land which, by the bad cultivation of the previous owner, is poor. I have no manure to spare for it next spring; my object is to get it seeded down with clover. I thought of summer fallowing it, and sowing a crop or two of buckwheat, and plowing it under. Please direct me in the manner it ought to be done; the quantity of buckwheat to the acre; also if two crops of buckwheat can be got in so as to sow wheat by the 1st of September, as I prefer early sowing, as the clover does better to be sown early.

Onondaga, Dec. 12, 1843. SALT POINT.

The object of "Salt Point" appears to be to enrich his land by plowing in a green crop of Buckwheat. For this purpose the seed may be sown as early in the spring as the frosty season is over. It should be plowed in when in full bloom, and this may be readily done by first passing a roller over it, making just such lands as it is intended to plow, and running the plow the same way the roller went.

If the first sowing of buckwheat should be got in early, it might be turned under, and a second crop might be raised and also plowed under in time for wheat. The second crop might be plowed under at any time, if it should appear that there was not sufficient time for it to reach maturity; there would, of course, be something of it, though its value as manure might not be as much as if there were more of it.

PROFITS OF POULTRY.

From the report of a committee on Poultry, of the Wayne County (N. Y.) Agricultural Society, we gather the following items:

Charles P. Smith, of Ontario, keeps 120 hens and two cocks. Attached to his hen-roost is a yard containing one-fourth of an acre, enclosed with a picket-fence six feet high. From the first of March to the tenth of October, he had 6,000 eggs, and 115 chickens.

John J. Thomas, of Macedon, states that carefully conducted experiments have led to the conclusion, that a "bushel and a half of oats will be an adequate yearly supply for each adult" hen, and that by allowing the fowls "an hour's run for exercise before retiring for the night, high health and productiveness will be secured."

David Cushing keeps 25 hens, and feeds them with oats, corn-meal, broom-corn seed, and refuse meat, and supplied with ashes, pounded shells, &c. They were confined to a warm but airy room during winter. His account current is as follows:

		Poultry Establishment, Dr.
To investment of stock and fixtures,		$50 00
Interest,		3 50
Feed, a large estimate, 25 bush. oats, 20 ct.		5 00
Attendance,		5 00
Total,		$13 50
	Cr.	
By 75 doz. eggs, 12 c. sold early,	$ 9 38	
" 200 chickens, 10 cts.,	20 00	
	$29 38	29 38
Leaving a nett balance of		$15 88

On an investment of $60 00, or, an interest of more than 25 per cent on the capital employed.

CLOVER HULLING MACHINES.

IN answer to an inquiry in our Nov. No., concerning machines for cleaning clover seed, we have received two letters, from which we extract the following information:

Thomas D. Burrall, of Geneva, in this state, states that most of the seed raised in that neighborhood is cleaned by machines made by him, and that his machines are largely in use in most of the states. He builds three sizes, costing sixty, seventy, and eighty dollars each, and requiring from two to six hands to drive them. His machines thoroughly clean the seeds at a single operation.

H. Baldwin, of Washington, Conn., manufactures a machine which is very highly recommended by those who have used it, and which took the first premium of the American Institute of New-York, in 1840, and has taken several other premiums. It is said to do the work without any loss of seed, and is so constructed that it can be tended without inconvenience from dust or dirt.

CAPONIZING.

A correspondent of the Philadelphia Ledger gives the following very simple mode of castrating fowls:

"The bird was kept from food for two days, in order that the distended entrails should not conceal the organs from the view of the operator.

"Strapping its wings to a table, through an auger hole, an inch incision was made in the side, between the hip and the last rib, and two inches from the spine; the feathers having been first plucked out at that spot.

"By a simple spring-grapple, the sides of the wound are kept apart. The organ to be removed is readily recognized—it is a small reddish-yellow cylinder, tied to the spine; and by means of a horse-hair, looped and passed through a little tube, it is removed in an instant. The bird was turned on the other side, another incision made, and the corresponding organ excised—the whole process occupying about two minutes. The loose feathers were pressed on the wounds as a styptic, and the poor bird did not appear to suffer at all."

NEW-YORK STATE AGRICULTURAL SOCIETY.

Annual meeting to be held at the old State Hall, Albany, Jan. 17, 1844, at 10 o'clock, A. M.

The regular meetings of the Executive Committee, are held at the same place, on the second Wednesday of each month.

MEETING OF EX. COMMITTEE FOR DEC.

The following communication was received and referred to the annual meeting of the Society:

To the Executive Committee of the New-York State Agricultural Society:

Gentlemen,—I enclose the proceedings of a meeting of citizens of Dutchess county, held at Poughkeepsie, on the 3rd inst., which give their views in relation to the improvement of agriculture, by means of county and state societies, and express their desire that the next annual fair of the State Society should be held in the village of Poughkeepsie. That place seems to be the most central and eligible for all the citizens of the 1st and 2nd senate districts, and for a large portion of those of the 3rd district; with great facilities of communication with other portions of the state. No state fair has yet been held south of Albany, and the citizens of the southern section may reasonably expect that some regard will be paid to their locality and convenience; and believing that the object of the State Society is to distribute its benefits as widely as possible, I indulge the hope that the present application will receive a favorable consideration. A number of the committee attended at this place on the 15th inst., under the impression that the Executive Committee would have met on that day. At the meeting in the village of Poughkeepsie, about $700 was raised by subscriptions for the purpose of providing suitable enclosures and accommodations, and the committee consider themselves pledged that such shall be provided free of expense to the Society, and that the Committee of the State Society shall have the control and direction thereof, and the whole benefit of the fund which may be raised from admissions.

ABM. BOCKEE,
Albany, Nov. 27, 1843. Chair'n of the Com.

Donations of Books for the Library of the Society, were presented as follows:

150 vols. from the *Albany Institute,* consisting mostly of the Reports made to the British Board of Agriculture, of the Surveys of the several districts of England, Scotland, Wales, &c.

Transactions of the Albany Institute, vols. 1 and 2—from the *Institute.*

The Farmer's Cabinet, from its commencement, 7 vols. from *Josiah Tatem,* publisher.

Memoirs of the Board of Agriculture of the State of New-York, Vol. III.—from *Alex. Walsh, Esq.*

The thanks of the Society were voted to the several donors, for this handsome addition to their Library.

The thanks of the Society were also voted to Gen. HARMON, of Wheatland, Monroe county, for specimens of twelve varieties of wheat cultivated by him.

The Society will be glad to receive the 1st and 2nd vols. of the Memoirs of the Board of Agriculture of this state, to complete their set, from any gentleman who may have a copy to spare. Any other works on the general subjects of Agriculture or the Natural Sciences, Agricultural Reports, Addresses, &c. will also be very acceptable.

☞ The next meeting of the Ex. Committee is to be held Jan. 10, at 10 o'clock, A. M.

NEW PRODUCT OF THE SOUTH.

We find in one of our Louisiana papers, that Mr. McIntyre of Ouachita, is cultivating the *bene plant* for the oil obtained from its seeds. Twenty bushels is considered a fair product for an acre, which will give fifty gallons of pure oil, worth $1.25 per gallon, or a product of $62.50 per acre. The oil is superior to the common olive oil, and its taste is very pleasant. It will, should its culture for this purpose spread as anticipated, render the importation of olive oil unnecessary in the southwest.

TENNESSEE HOGS.

WE have been furnished by our friend J's L. Vaughan, with the weight of fourteen hogs killed by him. They certainly did well, for "the common scrub breed;" but we can hardly doubt that had Mr. Vaughan kept some of the improved breeds instead of them, they would have acquired they same weight at 18 months, that these did at " three years old."

Caledonia, Henry Co. Tenn., Dec. 7, 1843.

MESSRS. GAYLORD & TUCKER:—I send you the weight of 14 hogs killed the other day. We have not as fine hogs as in other places, but I thought perhaps you would like to hear what sort of hogs we do have:

No. 1	weighed,....	424	No. 8	weighed,....	266
2	"	384	9	"	264
3	"	346	10	"	248
4	‘	330	11	"	228
5	"	316	12	"	222
6	"	302	13	"	212
7	"	274	14	"	208

Total weight of 14 hogs, 4,024; average, 287.

These hogs were of the common scrub breed, 3 years old; allowed to run out in the woods, and fed on corn once a day until they were put up to fatten, except in harvest time, when they were turned in upon a small field of oats without any corn. They were penned in the latter part of August, and fed on corn until they were killed, being three months fattening.

IMPROVED VARIETIES OF INDIAN CORN.

Messrs. GAYLORD & TUCKER:—Herewith I forward you a box containing a sample of my crop of corn of the present year. There is one ear on the top of the box, containing sixteen rows, sent to me by a neighboring farmer, being a sample of his crop, all of which was shrunk and indented like this. The seed from which this sample was raised, was Virginia corn, showing clearly that the season here is not long enough, or warm enough, to perfect the grain. It will show, by comparison, the advantage of raising the White Flint, like my crop, all of which is good and fair, though all the ears are not as large as the samples I send you.

Respectfully yours, SAMUEL AKERLY.
Southfield, Richmond Co., N. Y., Dec. 4, 1843.

We have received the samples of corn mentioned above, and should be happy to distribute it among such of our friends as wish to give it a trial. The White Flint, spoken of, is a handsome variety, and we should think would suit the latitude where it was raised—say two degrees south of this, very well.

THE SUGAR CANE.

A correspondent of the *Planter's Banner,* Louisiana, gives the following as Mr. Packwood's system of cultivating the Sugar Cane, which is said to have proved very successful:

" Mr. P. plants his cane eight feet apart, and gives it a very heavy hill. In cutting his cane, in the fall, he winrows his tops in the middle of his rows. As soon as he finishes rolling, or whilst rolling, if possible, he throws four furrows with a large plow over his winrowed tops, and leaves them through the next summer to rot, having plenty of space left to hill and cultivate his crop, without interrupting them. The four furrows, with the rattoon tops and leaves, give him a good ridge on which to plant the next year, and space enough to cultivate it without interfering with the old stubble until the last plowing, when he breaks it out with a large plow and strong team, thus opening the drill for the deposite of the plant cane-tops as before: Thus changing his rows every other year, and planting each time over a good bed of manure. In this way Mr. P. has brought up an old cocoaed place, to be one of the most productive plantations in the state. His crops range from 500 to 600 hogsheads a year, and he scarcely ever rolls more than 200 arpents of cane."

Principle will succeed where management would fail.

BERKSHIRE HOGS, &c.

WE give the following from a letter from Col. JOHN BONNER, of White Plains, Georgia, dated Nov. 17:

"In the last number of your Cultivator, I read the remarks of J. W. G., relative to the weight of his Berkshires, &c. I can only say that the Berkshires raised by me have greatly exceeded the weights stated by him, and that with ordinary food. I have no doubt but with good food, and a plenty of it, I can, at one year old, make a lot of ten or more of my hogs, average over 400 lbs. nett. I also notice your reply to his remarks on that subject, in which you say "that other food than corn will make them attain greater weights, &c." Now I should be much pleased to know what kind of food it is that is cheaper and will make hogs grow larger than corn will. I am a raiser of Berkshires to a considerable extent, and should be happy to find any food better and cheaper than corn, or corn meal, to raise them on."

If our correspondent will turn to the Cultivator for 1843, page 30, he will find in the Lecture of Professor Playfair, some hints which will enable him to see why some kinds of food are more productive of muscle and growth, than of fat, and *vice versa*. Our method is to allow our pigs to run in clover pasture the early part of the season, feeding them with potatoes, or small quantities of barley meal, to keep them constantly thriving, not fattening. When apples begin to fall, they run in the orchards. Peas which are sown for this purpose, are now fit for feeding to them, and experience proves there are few things that better promote both growth and condition, than to commence with the pea while the vines are still green. By the time to commence the process of fattening, a good growth is obtained, and the fattening is conducted with peas, or barley meal, or corn, as circumstances may indicate. Dr. Dana's analysis of Indian corn, shows why it is better for fattening, than the formation of muscle or growth. Of the principles that promote growth, it contains but about twelve parts in a hundred, the remainder belong to those useful in fattening.

PREMIUM FARMS.

AMONG the most interesting papers emanating from our Ag. Societies, are the Reports on Farms. From a very valuable report of this kind, made by our correspondent, J. J. THOMAS, to the Wayne Co. Society of this state, we copy the following description of the Farm which received the first premium:

The farm of WM. P. CAPRON, in the town of Macedon, contains 160 acres, of which 120 are cultivated, and 40 occupied with wood. It is handsomely laid out, divided by a lane, with fields of about 10 acres on each side. This is the only farm where the committee found a regular system of rotation of crops. The following is the rotation pursued in each field:—1st. Wheat after clover; 2d. Corn with all the manure; 3d. Barley; 4th. Wheat; 5th. Clover one year; 6th. Wheat, &c. Different fields are of course occupied the same year with different stages of this course; and so uniformly is it pursued, that the proprietor can tell for twenty years to come, what is to be in each field. A proof of the cleanliness and fine tilth which this rotation produces, is furnished by the fact that 7 acres of corn were hoed well, the present year, by three men in three days. His crop of corn averages from 40 to 60 bushels to the acre; barley averages 35, and has never been less than 25; wheat, which he considers is more benefitted by the manure applied two years previously to the corn, than if directly applied, has averaged over 20 bushels,—in one case he had 50 bushels per acre on 5 acres; ruta bagas, from 600 to 700 bushels per acre, and has raised more than one thousand bushels on one acre; these he feeds successfully (uncooked,) to hogs and other animals during winter. There are 17 acres of permanent meadow, generally lowland, which is occasionally top dressed and harrowed, but rarely plowed, and which averages fully two tons to the acre. He never raises oats, but buys them when needed. He has 9 cattle, 5 horses, 120 sheep, and 20 hogs, from which he makes yearly 300 loads of manure, all of which is applied every spring to the corn crop. He fattens hogs on ground and cooked corn and barley, the cooking greatly swelling the bulk with water, and according to his experiments, increasing the value of the food about three fold. A part of the farm which cannot be well brought into the regular rotation, is periodically summer fallowed and sown with wheat. There are never less than 30 acres of wheat each year,—10 acres of which are after clover, 10 after barley, and 10 or more after summer fallow. There are but 10 acres of pasture, besides stubble and fallow. This is the one year of clover preceding wheat. When the clover sod is clean, he mellows the surface with a cultivator, and sows it. There is a mile and a half of stone wall; nearly all the rest of the fences are rails, with upright stakes and connecting caps under the riders. The buildings are a good house, large barn, sheds, stone granary, &c.

THE SILK BUSINESS.

The 6th No. of Greely & M'Elrath's "Useful Works for the People," is devoted to the "Silk Culture," and has heretofore been noticed. In this work we find a letter from ALEX. WALSH, Esq., of Lansingburgh, on the progress of the Silk business in this country, from which we make the following extract:

"The statements which have recently been laid before the public on this subject, are most gratifying to those who, like myself, years ago asserted the practicability of the Silk culture; and the argument which they afford is conclusive in favor of the value and importance of this branch of industry. The experiments made in different parts of the United States, form a new era in the business of Silk culture, and must remove every lurking doubt as to its practicability and utility, even when managed on an extensive scale. It will give a new impetus to such as are already engaged in the employment, and arrest the attention of others in whom the subject has hitherto awakened comparatively but little interest.

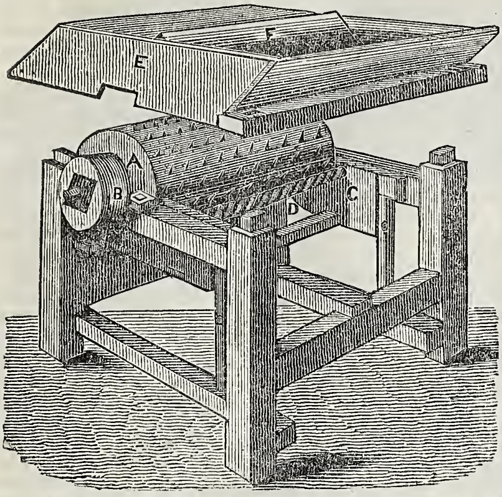
"I am gratified to observe that in New-England this enterprise is steadily advancing. The amount of Silk made, seems to be doubling with each successive year. 'Maine can grow Silk; New-Hampshire and Vermont can grow Silk. Notes of encouragement come from the cold North and the warm South. The fertile West has spoken in terms full and decided. Onward we are summoned; onward determined to move.'

"The late experiments and results connected with the 'Silk Culture,' assume especial importance when regarded in a national point of view, and as pointing to a general and lasting benefit that must flow from the successful establishment of the Silk culture and manufacture in the United States—this being 'a department of industry that has enriched and aggrandized every nation by which it has been adopted.'

"Now that the principal obstacles in the way of the successful prosecution of this business have been surmounted, will not our agriculturists generally direct their attention to this branch of new and profitable industry? The production of Silk fabrics might furnish employment to classes of our population who are now of necessity unemployed, or meagrely compensated for their labor. This would secure the advantage of steadiness of employment—increase the average reward of labor—promote individual comfort and national wealth. I persuade myself—looking at present indications, and at the same time dwelling in my own mind on the importance of the subject—that the United States will shortly become a Silk growing nation; that Silk will be the prime staple article, and its culture the most profitable branch of agriculture; and the time thus arrive when there will be saved to the nation the amount of money now expended in purchase of foreign silks, and exceeding *seventeen millions of dollars* per annum."

REMEDY FOR HARD MILKING.

Mr. KNISKERN, of Knox, says that he has tried the plan of opening the teats of cows that milk hard, with a harness awl, or a small penknife, as recommended in a former No. of the Cultivator by Mr. Durand, and has by this means made a very good milking cow from one which could scarcely be milked before.



GOLDSBOROUGH'S CORN SHELLER & HUSKER.—(Fig. 2.)

THE above figure represents Goldsborough's patent cylindrical Corn Sheller and Husker, for horse power, which is worthy the attention of extensive corn growers. They are capable of shelling 130 bushels per hour, and are warranted to shell 1200 bushels per day, without extra exertion; they break no corn, and leave none on the cob. With this machine, about half the above quantity may be husked and shelled in a day. They are manufactured by R. SINCLAIR, Jr. & Co., Baltimore, and for sale at $45,00 and $35,00, according to size.

SOWING CLOVER SEED IN ORCHARDS—COAL ASHES.

MESSRS. EDITORS—It has been remarked by some, that clover seed should never be sown in orchards; that so long as the clover remained, the trees would yield no fruit. Now I would thank you to insert in the next no. of the Cultivator, your opinion, or that of some of your correspondents, upon the subject, whether red and white are both injurious, and if both, which the most so? Likewise whether the ashes of anthracite coal contain any nutritive substances, or are in any way beneficial to land? A SUBSCRIBER.

We are aware that the cultivation of clover in orchards has been condemned by many, but we think without reason. If clover is allowed to ripen its seed, it produces on soils the same exhausting effects that other plants, the grain ones for instance, do, when their seeds are ripened on the land, and probably no more so. The ripening of grain seeds, is however, usually preceded and followed by the plow, which has a tendency to counteract the exhausting effect, a practice to which clover land is not as commonly subjected. That clover will not prevent orchards from bearing, we have the most conclusive evidence. Our orchards have been always subjected to a clover rotation, and without injury to the fruit. The present year our orchard is in clover, and was mowed; and it is believed it would be difficult to find finer apples of the several varieties grown in it, or trees more productive than a large part of them have been the past season. On soils much reduced, it is possible clover might subtract something from the nutriment, otherwise drawn by this tree, but no more than by other plants, if so much.

Anthracite ashes are valuable as a top dressing for grass, or applied to plowed lands intended for crops, or when placed around trees as a preventive of vermin. They should always be carefully preserved, and applied by the farmer where most wanted. With compost manure, or swamp muck, they render essential service. The term "nutritive," is not generally applied to manures of this class; they are more properly "stimulating," like other mineral manures.

The mahogany tree is full grown in 200 years.

DIGGING POTATOES—CORN SMUT—PLASTER.

MESSRS. GAYLORD & TUCKER—There is quite a difference of opinion among farmers, as to the best time of digging potatoes. Some prefer digging them soon after they are ripe; others prefer to let them stand in the ground, as long as they can and be secured safely. My own opinion is, that if allowed to remain in the ground a length of time after they are ripe, they will, when dug and carried into the celler, prove better, and their flavor superior to those dug as soon as ripe. Exposure to the sun and air, soon spoils potatoes, and the sooner they are placed in the cellar after being dug, the better they will be for eating. We should be glad to learn your opinion on this subject.[1]

I have noticed that there is more or less smut on corn every year; and I have been led to think what could be the occasion of smut; and does it increase more in wet weather than dry? There is more or less of it in all seasons. Will the taint of smutted seed corn, if planted, cause the grown crop to be smutty?[2]

How will sowing plaster in the fall, on irrigated meadows, operate? We have had as good returns from plaster sown on low natural meadows, as upon upland; but never have sown it in the fall of the year. There would be an advantage in fall sowing over spring sowing, were the effect equal, as farmers have less to do in the former season than in the latter. But the difference in effect on the crop at fall, over spring sowing, we have not learned.[3] LEVI DURAND.

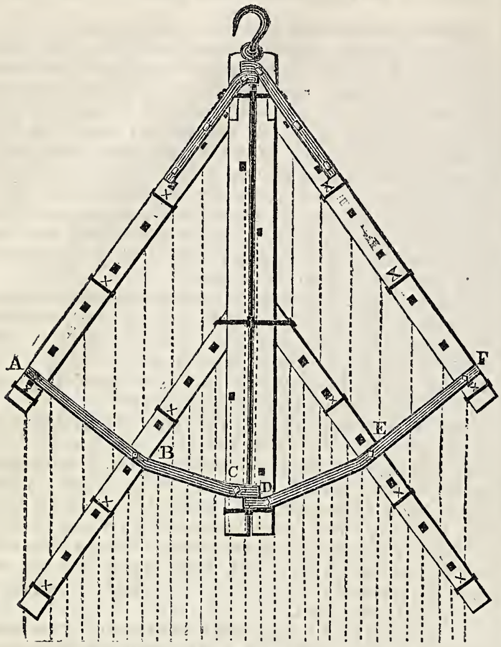
Derby, Conn., 1843.

1. Potatoes may be dug with safety at any time after they are ripe, of which the decay of the vine is the best indication; but they will continue to improve, if suffered to remain in the ground, unless, as is sometimes the case with very early ripe potatoes, and as we have seen this year, they commence sprouting, an indication that their hibernation, or the period of rest in plants, has passed. Not only the sun and air, but even light, is very injurious to potatoes, which will be better for being kept in cool dark cellars. If a cellar is light, covering the potatoes with turf, is an excellent plan. Potatoes should be dry when put in the cellar, and then the dirt that is upon them is beneficial rather than otherwise. Potatoes this year are rotting extensively, because they did not mature, but rather died from drouth. This is particularly the case we learn with that fine potatoe, the *pinkeye*.

2. The fungus on corn, like the smut on wheat, oats, &c. is a species of Uredo, and corn infected with the smutty particles, is much more likely to produce smut again. That smutty wheat, if sown, will in most cases produce smutty wheat for a crop, is certain; and as brining and liming wheat will kill the germinating power of wheat smut, it is probable the same process would exterminate it in corn. The trial would be well worth making. Wet seasons, if hot, are most favorable to all species of fungus or uredo.

3. We live in a district where plaster abounds on every side of us, and is used extensively by nearly every farmer, but we know of no instance where it has been used on irrigated meadows, and the opinion is general that plaster is of little if any use on low moist lands of any kind. Plaster, with us, is sown at all times of the year, as best suits the convenience of the farmer; though the time preferred is April or May, when the wheat and clover have fairly begun to put forth their leaves. We have known it used with good effect on summer fallows; sown on wheat in the fall; on wheat and clover, or dry meadows and pasture, in the spring, but rarely on low wet pastures or meadows. If any of our readers have experimented with plaster, in the way suggested by Mr. D., they will confer a favor by informing us of the result.

GREAT BERKSHIRES.—In looking over the list of premiums awarded at the late meeting of the Rhode Island Ag. Society, we noticed the following:—"Messrs. A. & W. Sprague sent to the show two very fat pigs, about two and a half years old, supposed to be nearly pure Berkshires. These animals weigh about twelve hundred lbs. each, alive."



MR. GEDDES' HARROW.—(Fig. 1.)
(*Scale, half an inch to the foot.*)

We are indebted to George Geddes, Esq. of Onondaga county, for the drawing from which the above engraving was made, as well as for the annexed description of the Harrow, invented by him some years since, and which has been extensively used in that part of the state, and found superior to any other known there. With the aid of the description and drawing, our readers in any part of the country will be able to get them made for their own use, as there is no patent for it.

Description.—Timber, three inches square.

The side pieces should enter the center pieces, so that the acute angle will contain thirty-five degrees. Or the bevel may be found by laying a carpenter's square on a board, and measuring on one side of the corner three inches, and on the other two inches and one-twelfth of an inch; a line drawn through these points will make a triangle, having the smaller angle, that is the angle at the point where the three inches reached,—the angle required.

The tenons should enter the center pieces only one inch, the mortice and tenon being cut square with the center pieces, as shown in the engraving. If this joint is well made, the bolt passing through both sticks will keep the timber in place perfectly. The side pieces have each three bolts, X. X. X. passing through the middle, to prevent their splitting. The back hinge is made of Swede's iron, bolted at A. B. C. D. E. F., on the timber with half inch bolts. These bolts should be well made, and have large heads on the lower end, as of any thing breaks, it probably will be these bolts.

The forward hinge is made with Swede's iron, and bolted on the top of the timber, with three bolts in each side of the hinge.

The hook plays freely in an eye on the end of a rod, made of round iron, five-eights of an inch in diameter, which runs through both hinges; having a washer, nut and spring key, behind the back hinge. The eyes in the hinges should be the thickness of the iron above the timber, consequently the rod running through the eyes will be that much above the timber.

The hinges should be four and one half feet apart from center to center.

The center pieces are one inch apart.

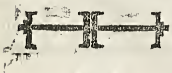


Fig. 2.

Fig. 2, represents the bolts that pass through the joints of the center and side pieces. The heads on these bolts are half an inch thick, and being exactly opposite each other, *they come together* when the harrow is flat on top. These heads and the plates under the nuts are three inches long, and are turned a little at the ends, so as to grasp the timber, and keep it from splitting.

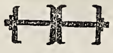


Fig. 3.

Fig 3, represents the two bolts that pass through the center pieces, behind the back hinge, with the heads, plates and nuts.

The side pieces should be twelve or thirteen inches apart in the clear, measuring square across.

The four teeth in the center pieces require to be made straight on one side, instead of having the point in the center, as their places are near the sides of the timber.

The teeth should be seven-eights of an inch square.

This drawing of my harrow, shows all the improvements in its construction that have been made since you published the engraving in 1836.

I have attempted to show every thing in this drawing, and to give so minute a description that any common mechanic shall be able to construct a harrow without making mistakes.

A harrow having thirty teeth passing within two inches of each other, from center to center, is just what is wanted on ground under good cultivation. On land just cleared, the teeth should be further apart, perhaps four inches.

The advantages that my harrow possesses over the hinged square harrow, are very great. It draws easier. One reason for this is, that the line of draft passes through the middle of the harrow, having just as much weight, and just as many teeth, (and they equi-distant there from,) on each side; consequently, the harrow on an even surface, moves straight forward, without producing any vibrating of the whiffletrees, as the square harrow does.

Another advantage is, it is easily cleared of foul stuff. The driver, without stopping his team, lifts up one side, and the stone or stick falls out.

The teeth track better, and instead of leaving a few large marks on mellow ground, it leaves thirty small marks.

It is stronger, and when broken is easier repaired than any other harrow.

It is cheaper than a well made thirty tooth square harrow, and the expensive part, (hinges, rod and bolts,) will last a very long time. The cost of one of my harrows, made of the very best of timber, the teeth all steel pointed, and the whole painted twice is twelve dollars.*

I request any person that may attempt to construct a harrow from my plate and description, to follow the directions exactly. If it should be supposed that improvements can be made, I beg that first an experiment be made after my directions—then improve, and if the improvement is not found to be backwards, give it to the public.

I have been using this harrow for eleven years. Since you published the engraving in 1836, which showed the principles involved, I have made great improvements in the manner of putting it together; but all the attempts to alter it fundamentally, have so far as I have learned been failures, and sometimes the experimenter has laid his to somebody besides himself.

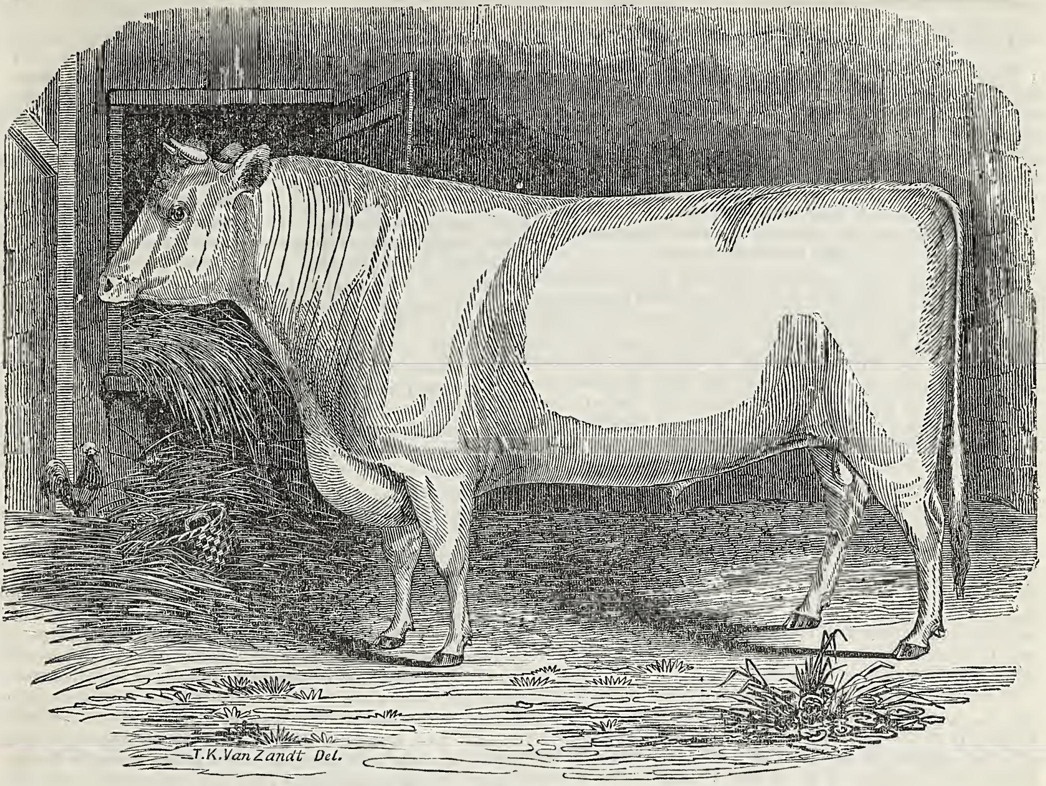
My only wish now, in relation to this harrow, is, that it may be made correctly; that this may be done, I have prepared the drawing. I have no fears but that it will prove to be better than any other in use, if fairly tested.

Tyler, N. Y., Nov. 30, 1843. Geo. Geddes.

Hemp Tree.—The Louisville Journal says, "A hemp stalk measuring nine inches in circumference, and sixteen feet two inches in height, and having sixty-five branches, was grown on good clay land in Mecklenburg co., Keutucky.

---

*As it may be inferred by some unacquainted with Mr. Geddes, that he makes the harrows here described, or is interested in their construction, we deem it proper to state that such is not the case,—that in giving this harrow to the public, the only solicitude he feels, is that of the inventor; but that should any person desire a harrow of this construction, by addressing a note to Oren Barton, Tyler P. O., N. Y., postage paid, enclosing $12, a harrow made in the best manner, will be put on the canal, directed and forwarded to any place required. [Eds. Cult.]


T.K.VanZandt Del.

IMPROVED SHORT HORNED BULL "METEOR,"

Bred and owned by George Vail, *Esq. Troy.*

Meteor, now two years and three months old, received the first prize at the cattle show of the American Institute, in Oct. 1843, as the best bull of any age, and also the first prize as the best bull in the first class at the Rensselaer County Agricultural Society's Fair, Sept. 1843. He was got by *Duke of Wellington*, out of *Duchess*, both bred by Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, and whose pedigrees have been heretofore given in the Cultivator.

Meteor is a fine animal, of good size, small bone, and excellent handling; with all the essential indications of good constitution, tendency to fatten, and quality of flesh. His dam, (Duchess,) is a fine cow—her head and eye show good breeding—and her points show a very good combination of fattening and milking qualities. She now has her third bull calf—not yet having had a heifer. The calves are all well shaped, and are good handlers.

Mr. Vail has handed us a letter, recently received by him from Mr. Bates, from which, at his request, we make the following extract:

"I showed the above gentlemen the Oxford premium Cow of 1839—the dam of your bull by Short Tail, (2621,) and her half sister, (same dam, and by Short Tail)—also the own brother to this half sister, Cleveland Lad 2d. (3408) and own brother to the bull that got the highest premium of the Royal English Agricultural Society at the Liverpool exhibition in 1841, named Cleveland Lad, (3407,) and which own brother I sold last year to Lord Feversham. In 1841, he also gained the first or highest premium given at the meeting of the Yorkshire Ag. Soc.

"These two cows and two bulls, all of the same cow, with a steer sold when two years old, and weighing then 72 st. 8 lb. of 14 lb. per stone, were in succession from the same cow, after putting her to bulls of the Duchess family. She had bred five inferior calves previously to other bulls—the best of their day—but not having any Duchess blood in them. My tenants, whom I had furnished this cow at her prime cost, £11, after having had her first five calves, offered her for sale in Darlington market, a month after calving, and could not have above £9 15s. for her, though a very good milker, giving 12 quarts of milk, ale measure, when on hay only in winter; no turneps or other hard food, and straw at nights. As they wished to sell her, I took her again of them at prime cost, £11; telling them previously, that if put to bulls of the Duchess family, this cow, called Matchem cow, would not breed a calf worth less than 100 guineas; and the Oxford premium cow was her first calf afterwards—and her half sister by Short Tail bull, (2621) is a better cow than even the Oxford cow. She has brought me two roan bull calves to Duke of Northumberland, and is now turned four years old; these calves are both very promising. And as a proof of the great improvement this tribe make, 2d Cleveland Lad went into Northumberland before he was two months old, in May, 1838; on the 6th of June last, he left Northumberland, having been kept on one of the highest hills there on which grain is grown; he was weighed on coming here and his weight 160 stones; on the 30th of July, he was again weighed, and had gained 24 stones in the 54 days; or 12 lb. over 6 lb. per day—or 3 stones of 14 lb. per stone, per week—weighing then 184 stones; a greater growth than I ever knew gained in the same space of time, and he was regularly served to cows during the time. The Oxford premium cow, calved Oct 5th, 1838, and was milked regularly every meal, twice a day, till Oct. 1841, bringing a calf annually; and in September, 1841, would have weighed above 100 stones of 14 lbs. per stone, and on grass only during the summer of 1841, she and two others going on two acres of grass, till so bare that they leaped the fence to get better food."

OHIO SILK GOODS.

Mr. J. R. Howard advertises in the Zanesville Gazette, vestings, ladies' dress silks, hosiery, drawers, shirts and caps, from the manufactory of John W. Gill, of Mt. Pleasant, Jefferson county, Ohio. Mr. Gill seems to be rapidly improving the quality and increasing the quantity of his fabrics, and we are happy to see the prosperity of this branch of industry.

CUTTING STRAW, HAY, CORNSTALKS, &c., FOR FODDER.

There are few farmers unwilling to admit that straw, cornstalks, and even hay, are far better for food when cut, or converted into chaff, than when fed out uncut; indeed, this is one of those things that are self evident to all who understand any thing of the action of the stomach on food, or what is necessary to nutrition. Great, however, as is the acknowledged benefit of feeding animals in this way, the few that attempt it only serve to show how deeply rooted the habits of the farming community are, and how averse they are to all change.

There are many advantages in cutting hay, straw, and cornstalks, when used for fodder, or the food of animals. In the first place, there is little or no waste of food. Every farmer is aware that of hay, clover hay in particular, when fed without cutting, a very large portion, and of cornstalks nearly one-half, and that the most nutritive part, is rejected by the animal and wasted. Secondly, it is presented to the stomach in a condition the most proper for the action of the digestive organs, an essential point in ascertaining the necessary amount of food required to keep an animal in condition to travel or to labor. Thirdly, an animal consumes much less time in making its meal, or filling its stomach with cut food, than when uncut; a most important matter to the poor animal that requires rest after labor, and not to be compelled to spend half the night in eating to satisfy hunger, when it ought to be quietly sleeping; and lastly, there is a great saving in the quanity of food consumed, to keep an animal in equally good condition, or fit to perform a given quantity of labor.

It appears from a statement in "British Husbandry," vol. I., page 141, that the allowance of food to cavalry horses, is 12 lbs. of hay and 10 lbs. of oats, or 22 lbs. in all; but experience has proved that work horses or cart horses will require 28 to 30 lbs. to keep them in good condition; and the large dray horses of the metropolis consume from 36 to 40 lbs. of hay and oats daily. The great contractors, the Messrs. Wiggins, allow their heavy horses 16 lbs. of clover hay, 4 lbs. of straw, and 18 lbs. of oats daily. This is a much less quantity than is usually consumed, or rather wasted daily by our ordinary farm horses, and proves that we are very far from being as economical as we might be in the matter of feeding. In the 19th volume of the Sporting Magazine is a letter from Dr. Sully, a physician of extensive practice, giving the results of his experience in feeding horses, and they are the more entitled to notice, as made in all respects with the greatest care and precision. The animals upon which his experiments were made, were his own saddle or draught horses, usually driven at a rapid pace, and yet kept in perfect working order. The kinds of food used by Dr. Sully, were divided into four classes, in the following proportions, and experience proved that they were nearly equal in keeping the animals in good condition; a slight preference being, however, given to the first and second classes, of which potatoes form a part:

	1st. lbs.	2d. lbs.	3d. lbs.	4th. lbs.
Bruised or ground beans, peas, or white corn,	5	5	10	5
Hay, cut into chaff,	7	8	10	8
Straw, do.	7	10	10	8
Steamed potatoes,	5	5		
Malt dust, or ground oil cake,	..	2	..	2
Brewer's grains,	6			
Bran,	..	..	..	7
	30	30	30	30

It must be remembered that the "white corn" mentioned is not Indian corn, but the common white grains, such as barley, wheat, &c., and that the same quantity of ground Indian corn might be substituted for the grain in each of these cases. All this food was made into what is called manger meat, that is, it was cut and mixed in tubs, and fed in the manger, no racks being used for hay or straw. Two ounces of salt were allowed to the daily feed of each horse; but this we think a rather liberal allowance. Any farmer who will look at this table, and then at the amount of food he is in the habit of giving his horses, in hay and grain, will see there must be a great loss somewhere, and might readily calculate whether there would not be a saving effected where a number of horses are kept to justify the purchase of the fixtures necessary for such a preparation of food. A few years since, a failure in our hay crop compelled us to keep our working horses on cut straw and corn meal, with two or three carrots thrown to each horse daily, and never have we had our teams in finer condition, or better fitted for the labor of the farm than in that year. Our rule is to salt our horses once a week, and to mix with the salt for each animal a handful of ashes; as a preventive of disease, such as bots, colic, &c., we think this method unrivalled. In no country in the world are the great principles of economy in the management of the farm so thoroughly studied, and successfully practiced, as in Flanders, and no where are the farm horses so universally fat and in fine condition for labor, as there; yet the food is all cut, ground, or steamed, before using, and racks in stables for horses are unknown. In England, where extensive experiments have been made to test the comparative merits of feeding prepared and unprepared food, the saving effected by cut or prepared food has been estimated at from one-fourth to one-sixth of the expense; probably one-fifth may be about the true medium, It may be added here, that the arguments in favor of cutting food for horses, are, so far as the same kinds of food are concerned, equally conclusive in favor of so feeding other stock.

The things most necessary for farmers who would like to feed their stock economically and yet effectively, (for the common economy of farmers in this respect, is the greatest of losses,) would seem to be a warm range of stabling, and the proper machine for cutting hay or straw, and breaking or grinding the grain. Whatever may be the method of feeding animals, it is indispensable for their comfort or thrift that they should be provided with comfortable, well ventilated, but not *hot* stables. The man who thinks to keep an animal of any kind in good condition, exposed to the cold and storms of our winters, must have paid little attention to some of the first principles of animal economy, and must have provided himself with an extra supply of fodder, as it will surely be needed. A little attention to keeping up the animal heat by comfortable stables, would save much food that is now required for that purpose, and which is far more costly than providing the stables.

The implements necessary for feeding animals in this way, are not costly. A straw cutter worked by hand, or what is better, by horse power, will convert, in a few hours, hay or straw enough into chaff to last for days or weeks. The grain can be bruised or ground at our corn cracker mills, or some of those mills invented for the farmer's use and adapted to such purposes, may be readily procured. It surely is not a hard way of feeding horses, to mix the food, cut straw or hay, and meal or roots, in a comfortable stable; and experience will convince any one, as it has us, that it is an expeditious one. One of the most decided advantages of a chaff cutter, particularly if worked by horse power, is the facility with which the thick, and usually wasted stalks of Indian corn, may be converted into the most palatable and nutritious food. That great improvements may be made in our methods of feeding animals, few will doubt; that the importance of the subject demands more attention than it has yet received, will not be disputed; and any man who will furnish facts, having a bearing on the matter, will confer a benefit on his fellow farmers.

FINE STOCK GOING WEST.

The farmers of the West appear to understand their true policy, and the advantages of their position. There is no part of the world offers such advantages for raising stock, as the whole valley of the Mississippi. We find in the Michigan City Gazette, that "Mr. T. J. Field has lately returned from Onondaga county, N. Y., bringing with him eleven hundred sheep, principally fine Saxons, and a very superior lot. Mr. Field availed himself of the opportunity of attending the great Agricultural Fair at Rochester, and was much gratified with the exhibition. He bought at Auburn a beautiful Durham heifer, two years old, and weighing 1,400 lbs." Northern Indiana has many public spirited farmers, and any district that has such men as Robinson, Steinbergen, Clark, Field, and others, will be sure to go ahead.

STATE OF AGRICULTURE IN EASTERN MASSACHUSETTS.

THE following brief notes were taken during a late flying trip.

A steady general improvement is apparent. The soil of this section is generally of a hungry, gravelly nature, yet varying considerably in its quality and powers of production. The farmers are so dividing their lands, as to adapt every foot to its most appropriate crop. The first settlers of the country and their immediate descendants, committed a great error in clearing too much of the land. The forest was cut off, and cultivation introduced, where the plow ought never to have entered. The consequence was, a scarcity of wood and timber, and leaving a great deal of unproductive soil. But the present enlightened generation are beginning to correct the mistakes of their fathers. Their wood-lands are protected with almost as much care as their corn-fields; the seeds of the pine have been planted in some of their old worn out fields; the barren knolls which were once such disagreeable objects in the landscape, are becoming covered with beautiful evergreen groves. An agreeable aspect might be given to almost every district of country, if due care was only taken to adapt the various productions to the locations to which they are best suited. Such a piece of ground, say, is not worth cultivation; it will not, perhaps, produce five bushels of rye to the acre. Then let it go to wood; and if it will not bear hard wood, try pine; if it is too poor for white pine, take pitch pine, which even the most barren sands of Cape Cod produce in abundance. Wood will soon be more plenty here, than it was twenty years ago, and with the improvements in culinary utensils, and in warming apartments, the expenses for fuel are and will be less.

At Bridgewater we passed through the beautiful village where the Plymouth Co. Ag. Society holds its annual exhibitions, and which we have taken much pleasure in attending,

"In days of auld lang syne."

This section of country abounds in peat bogs, or swamps. The natural growth of these swamps is ash, maple, yellow birch, &c. They are also the home of several varieties of indigenous grapes, some of which are found to be more productive and nearly equal in quality to any of the exotic sorts, when raised in the open air. The soil of these swamps is composed of vegetable substances, and is in some places of very great depth. It is found to be highly valuable in making compost manures, and as a dressing for the up-lands. When first taken from its bed, this soil, or "muck," sometimes contains an acid, which must be extirpated before it is useful as a manure. The use of alkalis, ashes, &c., are found valuable in developing and increasing its fertilizing properties. Exposure to the action of frosts and rains for a time, it is found dissipates the acid and renders the food for plants which the soil contains, available. Great care is taken to save all the animal manures; there are cellars under most of the barns and stables where the manure is mixed with bog soil, &c., its properties not being permitted to waste away by rapid fermentation.

Much attention has been paid to reclaiming the swampy and boggy lands of this section, by draining, eradicating the wild growth, and substituting the cultivated grasses in its place. The most productive grass lands in this neighborhood, are of this character. When once brought well into grass, they require very little care or trouble to keep up their productiveness for several years. When they require renovation, it is found to be best to plow them with a sharp plow, subverting the sod as smoothly and evenly as possible, and sowing grass seeds immediately on the furrows. The month of August is found to be the best season for this purpose. The lands are then generally sufficiently dry to work on, and the young grass has ample time to strike a deep root for itself before winter sets in.

The farmers here, usually deem it most profitable to cultivate but little land, and manure that highly. They raise Indian corn enough generally, for their own use, and as large crops of this grain are got here as in any part of the country. We found in this neighborhood, a variety of corn which is believed to be better adapted to this latitude than other kinds. Although a small sort, it is found to yield abundantly, from sixty to eighty bushels to the acre being frequently produced.* The stalk is small, which makes the fodder particularly valuable for stock.

The town of Bridgewater is distinguished for its various mahufactures of iron, cotton gins, &c., and also for its excellent Normal and other schools.

At Easton are the shovel works of Oliver Ames, the most extensive works of the kind in the United States. Mr. Ames has here invested a capital of one hundred thousand dollars, and has brought the manufacture of shovels and spades about to perfection. None of the English articles of this kind that we have met with, are equal to his. He sends his articles to all parts of the Union, and even to the West Indies and South America.

Agricultural Implement Establishments—Growth of Boston, &c. Few cities of the Union have been so uniformly and constantly prosperous, as Boston. A large amount of surplus capital has enabled her to go through all the revolutions in business unscathed; and the construction of the numerous rail-roads which connect her with the interior, bring to this market the products of a vast extent of country, and increase the growth and business of that place. It is said that there was more capital expended in building in Boston, last year, than there ever was in any previous year, the number of buildings erected being eleven hundred and eighteen.

There are several noted establishments for the sale of agricultural implements in this city. Jos. Breck & Co., proprietors of the New England Farmer, have a large seed store, and a large assortment of agricultural and horticultural implements.

Ruggles, Nourse & Mason occupy a large hall over Faneuil Hall Market. The establishment of this concern is on a very large scale. Their sales of implements last season, amounted to forty thousand dollars. Their articles, which are manufactured at Worcester, appear to be of the very best character and finish. Among the articles which we particularly noticed as being valuable improvements, were their sub-soil plows, the form and structure of which they have so modified and improved that they can afford to sell them at from $8 to $15, according to the size. The smallest and cheapest size is adapted to the draught of a yoke of oxen, or pair of horses, but in ordinary soils would answer for four oxen or horses. Their first sub-soil plow they imported from Scotland. It was a ponderous thing, and cost, including charges of transportation, $80. We are of the opinion that the use of the sub-soil plow will be found very beneficial. By it the ground may be thoroughly loosened to the depth of a foot or more if desired, below what is reached by the common plow. It is designed to work in the furrow of the common plow, and loosens without bringing the cold soil to the surface. On lands where plants may suffer from want of moisture, this stirring the soil to a greater depth will enable them to strike deeper root, while at the same time it promotes the exhalation of moisture from below, and brings it within the reach of the roots of the plants. On the other hand, where the sub-soil is too retentive of water, this same operation allows the surplus to descend into the earth, so that the plants are not injured by too large a quantity coming in contact with their roots.

Messrs. R., N. & M., have been for sometime noted for the excellence of their plows for common plowing. Their Eagle Plow has been very successful at the agricultural exhibitions and plowing matches, in Massachusetts and elsewhere. They have also a new plow which they call the Improved Eagle, which is calculated to do more work than the Eagle. This received the first premium at a very particular trial made in Essex county, Mass., in October last.

We also noticed at this establishment, a churn, called "Kendall's Churn," which seems to be a decided improvement over any other kind we have seen, not excepting Gault's, to which we have heretofore given the preference. Its cost is from two to three dollars, according to size.

---

* A sample of this variety of corn may be seen at the Cultivator office, which we should be happy to distribute among those who will give it a fair trial.

The large establishment of Messrs. Prouty & Co., we had not time to visit.

At Worcester we visited the implement manufactory of Messrs R., N. & M. Any farmer or mechanic who may have the opportunity, would find an hour or two spent here much to his advantage. The wood-work of their plows is all got out and fitted for the plow by machinery, even to the making of every mortice and tenon, and boring every hole. Being thus made, all the plows of the same pattern run exactly alike, and if any part of the plow should break, any person can put in a new corresponding piece, (by keeping the part on hand,) with the greatest precision. The machine which so admirably performs the work of preparing the wood part of the plows, was invented by Mr. Matthews, a very ingenious mechanic in the employ of Messrs. R., N. & M.

The metal which Messrs. R., N. & M. use for making their plowshares, is old rail-road wheels, which they think is the very best material for this purpose. They *chill* the edge of the share, so that it becomes harder than case-hardened steel, and will wear to a sharp edge. They have shares of different width and shape for their plows, to fit the different soils, and for plowing bog meadows they use a share to which a strip of steel is nicely fitted, that forms the edge, and may be ground sharp. This would make their plow exactly the thing wanted for plowing the prairies of the west.

In passing through the manufacturing districts of Massachusetts, one cannot fail to be struck with the indications of comfort and happiness which the mechanics and operatives exhibit. Their dwellings are neat, tasteful, and convenient; and their yards are ornamented with evergreens, shrubs, and flowers, which are always tokens of a cultivated mind.

In fact, the mechanics of Massachusetts occupy a very prominent position for respectability and influence—a position to which their character and intelligence evidently entitles them; and it is gratifying to see this class of citizens filling, with so much honor to themselves, their proper station in society.

DISEASE IN POTATOES.

Dr. G. B. Smith, a name of weight in the agricultural world, in a letter to an editor in Baltimore, suggests in relation to the present extensive rot in the potato, (which he says has destroyed large quantities of Mercers and Pink-eyes this season, in that section of country,) that it is caused by "hot damp weather, as the potato is approaching maturity," and that the disease is a "*fungus* belonging to the same class of vegetable growth as rust and smut in wheat, smut in corn, mould and mildew." He says, "I would recommend that all diseased potatoes be carefully taken out and thrown away, that lime, either quick or air slaked, be sprinkled among the healthy potatoes, just enough to whiten their surface slightly. * * * The appearance of the disease clearly indicates its character, and the remedy seems almost as clearly a matter of course."

We think these suggestions are important, and hope they will be acted upon at once, where such a remedy is required. That it was owing to unusually hot and moist weather succeeding that which had been remarkably dry as well as warm, seems probable; and we hope the subject will not be lost sight of, untli the true character of this formidable disease is established, and, if possible, some check to its spreading discovered.

THINGS OF IMPORTANCE.

To have your cellar well secured against frost; your windows and doors in good repair; your woodhouse with at least a year's stock of fuel cut and piled in it; your yards warm and comfortable; your stables clean and well ventilated; your farm implements carefully cleaned, repaired, and housed; your district school attended to, and every thing provided to facilitate education; useful and instructive reading for long winter evenings; a kind and benevolent heart to the poor; plenty of food for your animals; the receipt of an agricultural journal; and though last, not least, exemption from debt, and a conscience at peace with God and man.

HINTS TO YOUNG MEN.

"Who aims at excellence will be above mediocrity; who aims at mediocrity will fall short of it."—[Anon.

Be industrious. We do not mean here the industry of the hands alone; but that perseverance in whatever we undertake, that is the sure precursor of ultimate success. Never allow the mind or the body to stagnate; activity is necessary to the health of both. Always have some worthy end in view, in whatever you undertake; remembering that to fail with good intentions, is more honorable than success in an evil cause.

Cultivate your mind. It is of more importance to the young, that their reading should be select, rather than extensive. One volume well understood, on any important topic, is better than half a dozen merely skimmed. There are many subjects of general utility, with which every man should have a partial knowledge at least; but it is one of the great faults of modern education to spend too much time on studies that rather burden and clog the mind, than strengthen and inform it for life's practical duties. Reading, or studying without some definite aim, is likely to lead to few useful results. How many men there are who have spent a large part of their lives over books, of whom it may be said, "they remember a mass of things, but nothing distinctly." It is possible to cram the mind with masses of indigestible materials, destructive alike to a healthy and a vigorous action of the intellectual powers. Such is not the cultivation of the mind required by a young American farmer.

Be economical. No matter if your parents are worth millions, it is not the less proper that you should understand the value of money, and the honest, honorable means of acquiring it. What multitudes of young men, particularly in our cities, make fatal shipwreck of reputation, health, and eventually of property, by a neglect of this simple maxim. They are aware that their fathers obtained their wealth by habits of industry, but they are ashamed of the very name. They forget that wealth in this country passes rapidly from one to another, and that he who is rich to-day may be poor to-morrow; or that he who relies on wealth amassed by his father, may end his days in a poor-house. It is for the young here to say whether by industry and economy he will secure competence and respectability, or by extravagance and idleness become a worthless beggar and sponging outcast.

Be just. In the course of life a man frequently finds his interests or his opinions crossed and thwarted by those from whom he had a right to expect better things, and the young are apt to feel such matters very sensibly. But be not rash in your condemnation. Look at their conduct carefully, and be just to the motives that prompt it. You may find, that were you placed in their position, the course you now condemn would be the one proper for you, and the one you would be under obligation to pursue. A little cool consideration would avoid much censoriousness.

Shun avarice. One of the most disagreeable characters on earth, is that of the grasping, avaricious, penurious man. Generosity is perfectly compatible with economy; and the means which enable some of our most noble hearted, generous men, to do so much to benefit and bless mankind, are obtained, not by closefisted penuriousness, but by economy. The distance is not greater between the zenith and the nadir, than between the covetous and the economical man: the first banishes every just and honorable feeling from the heart, the other fosters and ministers to them all.

Determine to be useful. No matter what may be your condition in life, you have an influence, and that influence should always be exerted in a proper way. The young have no right to fold up their arms, bury their talent, and become the drones of the social hive. Aim high, but with prudence; act with determination and perseverance; let no obstacle drive you from the path of honor and duty, and you may be sure of eventual success. Riches are not within the reach of all: competence is; and the latter condition is preferable in every respect to the first. Remember the Deity helps those who help themselves, and that utility is the great end of human exertion.

DRY OR GREEN WOOD FOR FUEL.

Messrs. Editors:—I lately observed in a New England paper, an elaborate argument by a man apparently in sober earnest, in favor of using green wood for fuel in preference to dry; and I find there are many who entertain similar ideas. Although I have no doubts on the matter myself, I should be pleased if you would give your opinion on the subject through the Cultivator.

Inquirer.

An old book, the "Prompter," recommended that *back-logs* should be green, and the reason assigned was, that as only the *front* of the log should burn, a green one was better than a dry one, as the latter would be apt to get on fire on all sides at the same time. As back-logs have, however, gone out of fashion, this, the only admissible case in which green wood was the best, may be considered as testimony in favor of dry wood for fuel in all other cases.

Wood seasoned or dried at a temperature of 100° weighs about one-third less than green wood; for while some kinds will lose only about 25 per cent., there are others that will lose 50 per cent. As a cord of green wood will weigh on an average more than 4,000 pounds, every cord will contain some thirteen hundred pounds of water, or about one hundred and seventy gallons. This water must be raised to the boiling heat, and expelled by evaporation before the wood containing it can possibly burn. All the heat required for this purpose passes off in the latent state, and is lost to all useful purposes. The man, therefore, who burns green wood, loses precisely as much caloric, or in other words, of his wood, in every cord, as would be required to boil away 170 gallons of water. What part that would be, he can estimate for himself.

But, says the acvocate of green wood, all the fluids of the living tree are not water. The sap holds in solution sugar, gum, starch, resin, &c., all of which are inflammable substances, or will burn. This is true; but none of these substances are lost when green wood is dried; all remain for the benefit of the fuel; on the contrary, none of these will burn until free from the water holding them in solution, and much of them is driven off by the heat required for that evaporation. View the matter then as we may, there is a loss in burning green wood.

The best wood for fuel is that which is cut green, split into suitable sizes, and thoroughly and quickly dried, with as little exposure to rain or moisture as possible. There are some who cut and split their wood while in a sound and green state; but this is left exposed to the weather perhaps year after year, until the substances we have named as originally existing in it, and which contribute so much to its value, have become wasted, and even the texture of the wood itself partially changed. Such wood is of little value; indeed, it may be doubted whether in this condition it will afford as much heat as when green. Wood, too, is frequently damaged by being cut when full of sap, and instead of being split and prepared for drying, it is left in logs, in which state the juices ferment, sour, and this chemical change seriously injures the wood for fuel. Experiments carefully made, have demonstrated that dry wood will keep the thermometer at a higher range, and for a longer time, than green wood will do, pound for pound of each being used in the trials. Dry wood should not be made too fine, when economy in burning is consulted. If too fine, the heat will be too violent, in proportion to its duration, whereas by allowing sticks of suitable size, the heat will be more equal and permanent. Our experience and our experiments have convinced us that burning green wood is vexatious in practice and miserable in economy.

WINTERING FARM STOCK.

Messrs. Editors—As we are now in the foddering season, I offer a few remarks on the subject of wintering stock. Having noticed in various sections, a want of attention on the part of the farmer, it may not be amiss to admonish him at this season of the year.

Many seem to say by their management, that young stock will not grow and thrive in winter, and some are compelled to skin more or less before spring, for want of attention. Let no more stock be kept on a farm than can be at all times in thriving condition, with shelters to protect them from the chilling blasts of winter, especially for the young; give them the best of hay, morning, noon and night; and if they do not thrive, a little grain may not be amiss. Calves may be fed oats in winter without injury, say a pint per day, till accustomed to grain; then increase the mess till you give a quart at morning and night. Calves thus wintered, with good pasture the following summer, when dressed in the fall, will weigh from five to six hundred weight. Many of our best colts are injured by the first wintering, and are not worth as much in the spring as when weaned in the fall. Thus you see a loss of fodder and growth, and many times midsummer is past before they begin to thrive. The growth of the stock is the profit of the farm, therefore daily care should be taken to see that they are constantly improving. Let every foddering show that your stock is gaining, and in the spring you will feel rewarded for your winter's toil.

Dutchess co., Nov. 23, 1843. J. G. W.

SOWING INDIAN CORN BROADCAST

Messrs. Gaylord & Tucker—Having seeen sundry interesting communications in your valuable journal, relative to the immense yield of corn sown broadcast, I am induced to give you "my experience," though it is the result of an experiment on a small scale. In the spring of '42, I prepared two squares in my garden, each 20 feet by 30, and sowed them with corn—about half a gallon to each square—though this is too much. When about waist high, I commenced pulling it up by the roots, and feeding it green, to a fine Durham heifer and some pigs; the latter devouring it as greedily as the former.

I pulled up and resowed these squares four times during the season, and kept the animals in the finest order, without any thing else worth naming. This year I did the same thing; and I am satisfied nothing will produce *half* as much as corn thus planted or sown. Every time I stripped a square, it was forthwith highly manured, and at once spaded up and resown; and this season I had corn thigh high, when frost came. I generally fed the corn as it was pulled up, but sometimes, for a relish or change, it was cut up and seasoned with meal and salt.

Memphis, Tenn., Nov. 23, 1843. Alpha

CARE OF BEES.

Messrs. Gaylord & Tucker:—These interesting insects occupy a part of our garden. I prefer having them hung on a shelf supported by a frame, which prevents insects, the ants in particular, from climbing to them. I spiked pieces to the rafters of an out-house, on the north part of the garden. These pieces have the same pitch of the rafters; to these I pinned perpendicular pieces of boards, with cross pieces at the bottom; on these I placed a shelf, and affixed a roof of boards extending from the out-house roof.

Persons wishing their bees to swarm more frequently than they do under cover, may effect this object simply by exposing them to the rays of the sun. I speak from experience. Last summer I had two hives, neither of which swarmed during the summer. In the fall, I parted with one of them, and in the spring lowered the remaining hive, so that the rays of the sun had a strong power on the hive, whenever it shone, and it produced three swarms nearly at the same time, viz: on the 23d, 24th, and 26th days of June.

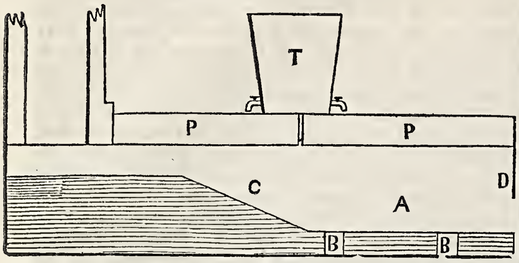
The grape vine is a pretty thing for bees to alight on when they swarm, and it should be planted near them for that purpose. I have never hived swarms with so little trouble, as when they alighted on the grape vine.

John M. Harlan.

Chester Co., Pa., July, 1843.

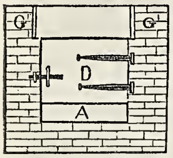
There are two silk factories in operation in Richmond, Indiana, which manufacture the best silk for dresses, gentlemen's vests, handkerchiefs, &c.

Domestic Economy.



Sap Boiling Apparatus—Side view.—(Fig. 12.)

EXPLANATION.



Front view. (*Fig.* 13.)

A. Fire-Place or arch.
B. B. Air flues, going through under the wood to clear the coals and admit air.
C. Space for burning out extra coals.
D. Door to prevent the cold air striking the pans.
G. Wall to prevent the cold air striking the sides of the pans.
P. P. Pans nine inches deep; much better than shallow ones.
T. Tub for feeding.

Sheet iron covers may be used to advantage for shutting out cold air.

To manufacture on a large scale, use another pan, or increase the width.

Messrs. Gaylord & Tucker:—I write you at this time, to communicate to you a plan (figs. 12 and 13,) for boiling sap for sugar, which we have used and find to be a very great convenience and improvement on the common mode of boiling. The advantages are: 1st. It saves a large amount of fuel; 2nd, hemlock, or other soft wood, if cut in season to dry, is as good as any; 3d, the manner of admitting air causes a more complete and rapid combustion with any kind of fuel; 4th, the neatness of it in guarding the boiler from smoke, soot, coals and ashes; and last, that a person can tend it without being burned and smoked almost to death. I have a shed built over this furnace, which forms a safe and cheap place of storage for the tubs, during the year.

I am sure that if this plan was generally adopted, or some other as good, it would greatly increase the amount of home manufactured sugar, and save much to the people of the northern states, by making the manufacture of it a pleasure instead of an irksome task.

Royalton, Vt., March 30, 1843. An Observer.

MANUFACTURE OF MAPLE SUGAR.

The maple sugar exhibited by Mr. Joel Woodworth of Jefferson county, and which received the first premium of the State Ag. Society, at Rochester, was far superior to any thing we had before seen, being nearly equal in whiteness, purity, and grain, to the best refined loaf sugar. The following is the statement furnished by Mr. W., of the manner of making and clarifying this superior sugar:

"In the first place, I make my buckets, tubs and kettles all perfectly clean; I boil the sap in a potash kettle, set in an arch in such a manner that the edge of the kettle is defended all around from the fire; I boil through the day, taking care not to have any thing in the kettle that will give color to the sap, and to keep it well skimmed. At night I leave fire enough under the kettle to boil the sap nearly or quite to syrup by the next morning; I then take it out of the kettle and strain it through a flannel cloth into a tub, if it is sweet enough; if not, I put it into a caldron kettle, (which I have hung on a pole in such a manner that I can swing it on and off the fire at pleasure,) and boil it till it is sweet enough, and then strain it into the tub and let it stand till the next morning; I then take it and the syrup in the kettle and put all together into the caldron and sugar it off.

"I use, to clarify, say 100 pounds of sugar, the whites of five or six eggs well beaten, about one quart of new milk, and a spoonful of saleratus, all well mixed with the syrup before it is scalding hot. I then make a moderate fire directly under the caldron, until the scum is all raised, then skim it off clean, taking care not to let it boil so as to rise in the kettle before I have done skimming it; I then sugar it off, leaving it so damp that it will drain a little. I let it remain in the kettle until it is well granulated. I then put it into boxes made smallest at the bottom, that will hold from 50 to 70 pounds, having a thin piece of board fitted in two or three inches above the bottom, which is bored full of small holes to let the molasses drain through, which I keep drawn off by a tap through the bottom. I put on the top of the sugar in the box a clean damp cloth, and over that a board well fitted in so as to exclude the air from the sugar. After it has done, or nearly done draining, I dissolve it and sugar it off again, going through with the same process in clarifying and draining as before."

MAKING BUTTER IN WINTER.

Our correspondent, "G. C. M." of Greenfield, Mass., after alluding to the difficulty often experienced in making butter in cold weather, gives the method pursued by his family, as follows:—"When the milk is strained, it is put upon the stove and heated to near or quite scalding heat, and then set away for the cream to rise. After sufficient cream is gathered for a churning, it is placed where it will be kept warm a sufficient time for it to sour, (usually about 24 hours,) when it is subjected to the process of churning, which rarely occupies more than 20 or 30 minutes. Previous to our pursuing this method, it often required from two to three and sometimes four hours to accomplish the same result."

In this way, we doubt not, as fine yellow butter may be made in winter as in summer. Mr. Merrifield, a farmer of this county, by whom we are supplied with butter of the finest quality, lets the milk stand twelve hours, when it is removed to the stove, and scalded over a slow fire to near boiling heat. The pans are then removed to the cellar to cool. By this method he finds no difficulty in making good butter in winter.

TO MAKE BISCUIT OR ROLLS.

Messrs. Editors—I would be glad to acquaint yourselves and the readers of the Cultivator, with the following receipt (not generally known, I believe,) for the making of good and wholesome biscuit or rolls. It has been in use for a length of time with some of my friends, and is their usual method of making bread in the above mentioned forms. Should any fail on the first or second trial of the experiment, they may be assured of a defect in some of the materials employed, or a want of strict compliance with the terms of the receipt, which are as follows:

Put two tea spoonsful of cream tartar finely pulverized, into one quart of dry flour, then dissolve three fourths of a tea spoonful of sup. carb. of soda into warm new milk, sufficient when mingled with the flour, to make the paste of the ordinary consistence for soft biscuit; then mix and bake in the form of rolls or biscuits, for about twenty minutes. These directions, if strictly followed, will render the bread extremely light and of a superior whiteness and flavor. H. L. Y.

East Avon, N. Y. Dec. 19.

"NEST EGGS."

"G. C. M." informs us that he manufactures "nest eggs" as follows:—"Take eggs and make holes in the large ends about one-fourth of an inch in diameter, and in the small end make them the size of a pin; by blowing, force out their contents. Then take calcined gypsum and Spanish white, about equal parts; mix them with water to the consistency of stiff paste, and fill the shells quite full with it, and place them in a warm place to dry. When dry, the substance will be quite hard. If the hens chance to break the shells of such eggs as these, there still remains good formed ones, and those of better consistency than chalk."

TO COOK A BULLOCK'S HEART.

Wash it well and dry it thoroughly; then prepare the seasoning, made with crumbs of bread, thyme and parsley, or any meat herbs, and an onion chopped fine, with a little suet and some pepper and salt, all mixed together and put into the heart, the opening of which is to be sewn up so as to prevent the stuffing from getting out. Bake it, and while it is cooking, rub it occasionally with lard, to prevent the skin from becoming too hard. —[Condensed from an article on cottage economy and cookery, in the Journal of the Royal Ag. Soc.]

BACON AND CABBAGE.

This is a very common dish in this country, particularly in the south and west. The articles are commonly put into the pots separately, but the Journal above referred to, says "it will be found a great improvement, if instead of that, a hole be cut in the head of the cabbage, and a quarter or half a pound of fat bacon is thrust into it as a plug. The head of the cabbage should then be tied over so as to confine the leaves, and the cabbage boiled in a napkin, to prevent all escape of fat, which will thus be imparted to the vegetable, and render it so much more mellow and savory, that any housewife who tries it will never dress it in any other way."

TRIPE AND SOUSE.

Tripe, after being scoured, should be soaked in salt and water seven or eight days—changing the water every other day—then boil it tender, which will take eight or ten hours. It is then fit for broiling, frying, or pickling. It is pickled in the same manner as souse.—*Mrs. Ellis's Housekeeping Made Easy.*

Souse.—Take pigs' ears and feet, clean them thoroughly, then soak them in salt and water for several days. Boil them tender and split them—they are then good fried. If you wish to souse them when cold, turn boiling vinegar on them, spiced with pepper-corns and mace. Cloves improve the taste, but turns them a dark color. Add a little salt. They will keep good pickled five or six weeks. Fry them in lard.—*Ib.*

Veterinary Department.

BLACK LEG IN CALVES.

Messrs. Editors—Having seen a number of articles in your excellent paper concerning a disease called the black leg, (which is so formidable an enemy to the rearing of calves,) and knowing that any light on the subject would be very acceptable, I feel in duty bound to give you what has come to my knowledge, and what little I have seen concerning this disease, the remedy, &c. This disease generally attacks the fattest and best; therefore it is hardly for the interest of the farmer to keep his young cattle in very high order. It has proved fatal in every case in my knowledge with one exception. We have met with some loss every year since my remembrance, in this neighborhood, from this disease, and some years to quite an extent. We have generally practiced bleeding in the fall as a preventive during winter, and for a few years I believed we had a sure remedy. I practiced it four or five years, and never lost any in the time, except those that by mistake or for some reason, were not bled; but in the winters of 1841-2, I undertook to winter thirteen calves, all of which had been thoroughly bled; and before spring, five of them died of the black leg; they were kept in a small yard, and not permitted to run out any, and were housed nights, and kept in good order; I thought it owing in part to their close confinement and being in good flesh, and last winter I let my calves have more chance for exercise, obliging them to go eighty rods for their drink; but notwithstanding, about the middle of the winter I discovered that one of the best had every symptom of the above disease, and I counted him as good as dead; but at the suggestion of a neighbor, I gave it a strong dose of lobelia, and got him on his legs and made him exercise much against his will, and within one hour he began to eat hay and got well immediately. G. S. P.

Randolph, Vt. Nov. 1, 1843.

BLIND TEETH IN HORSES.

Referring to an article on this subject, in the Dec. No. of the Cultivator, Mr. L. Physick of Maryland, in a letter to us, says:

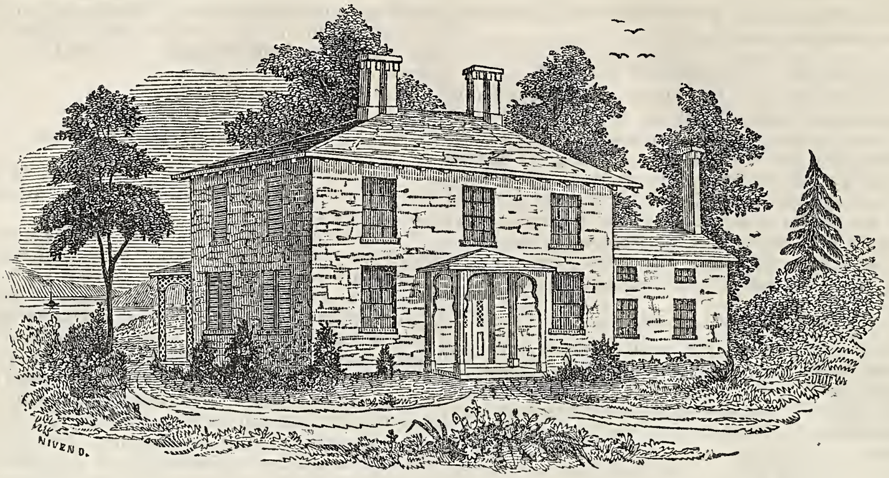
"I observe that you are desirous to obtain all the information you can collect about "blind teeth" in horses. This was a matter entirely new to me till last summer, when one of my horses had nearly lost the use of his sight; which I attributed to over work, he being of a restless disposition when at work. Some time after the predisposition to blindness was discovered, (the sight of one eye being almost, if not entirely gone,) he was sent to the blacksmith to be shod. The smith told the boy, that if a certain tooth, pointing it out to the boy, was not extracted, the horse would soon be entirely blind; and without my assent, took a hammer and a piece of bar iron, as described by the boy—rather barbarous pulling—and knocked it out. The boy said that there was no evidence of pain experienced by the horse, and that the tooth dropped out with the first stroke of the hammer. Whether this was the cause of blindness or not, I cannot say; but the horse very shortly afterward recovered his sight, which since then continues good."

REMEDY FOR BARREN SOWS.

We here give another extract from the letter of Col. Bonner, alluded to in another part of this paper:

"While writing, I have thought it not amiss to give you the favorable results of an experiment of mine upon a fine Berkshire sow, purchased last fall of Mr. C. N. Bement, near your city. She was over two years old when I bought her, and although she ran regularly with his boars she had never produced a litter of pigs, or had even been in pig, to his knowledge. With a full *knowledge* of these facts, I purchased her. On the first of November last, I found her in season for the boar, and turned her in the pen to one of mine; he served her repeatedly for two days. In about twenty days I found her again in season for the boar, and was persuaded by many friends that she was too fat to breed. I put her again to the boar, and turned her out in the woods *without any food*, to reduce her. She continued to reduce daily, and got *quite poor*, but was in season for the boar every eighteen to twenty-one days, and was as regularly served by different boars, until about the 10th of June. I then concluded to half spay her; or, in other words, to take out one of her ovaries, or prides, as we Georgians call them. I did so by making or cutting an incision in her right side, and took from her as large a pride as I ever saw. In the latter part of July thereafter, I discovered her again in heat for the boar, and turned her into a pen to my imported boar, Ontario, and I am pleased to tell, that she not only proved in pig, but that on the 13th inst., she produced me six fine pigs—five sows, and one boar pig. I would further remark, that she had on previous occasions been served by Ontario, and that her condition as to flesh, &c., was about the same it had been for several months, and the treatment precisely the same. It is the first and only instance of the kind I ever heard of, and thinking it possible that some of your many readers might have a sow similarly constituted, concluded to give you the above fact."

We know of several instances where great disappointment and loss has been caused by the failure of sows to breed. Although, so far as we know, his remedy is perfectly novel, it is based on strict physiological principles. Excessive ardor, or frequently repeated sexual connection, is usually a hindrance to impregnation, and the removal of an ovary, by lessening the first, had a direct tendency to produce the result desired. It is more than possible that the reduction of flesh might have been also useful, as the pressure of fat usually closes the Fallopian tubes and effectually prevents impregnation.

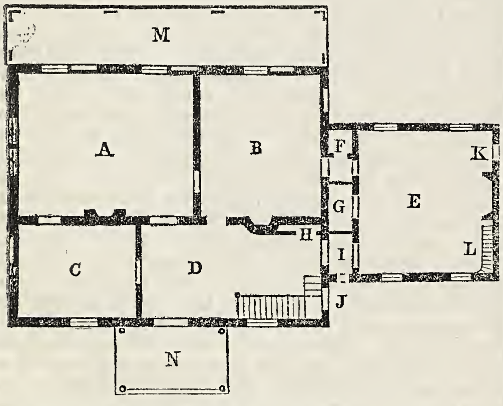


COTTAGE RESIDENCE,

Now erecting for Dr. John A. Lockwood, U. S. N., *near New-Castle, Del., looking from the Northwest.*

Messrs. Gaylord & Tucker—I herewith send you the plans of a Cottage Residence now erecting near New Castle, Delaware, for Dr. John A. Lockwood, U. S. N. The building is of brick; to be stuccoed and colored in imitation of stone. The whole area under the principal building is cellar room. The building is 28 by 32 feet, and the wing 16 by 19 feet. On the east side looking toward the Delaware, is a veranda the whole length of house, (32 feet,) and on the west, or entrance front, a porch 8 by 10 feet. The floors of veranda and porch are of stone.

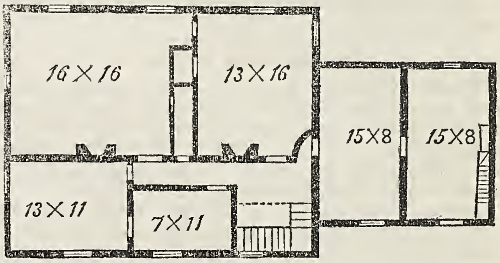
River Front.



Entrance Front.—Plan of Principal Floor.—(Fig. 4.)

A. Drawing Room, 20 by 16.
B. Dining Room, 13 by 16.
C. Library, 13 by 11.
D. Vestibule, 18 by 11.
E. Kitchen, 15 by 16.
F. China Closet.
G. Kitchen Pantry.
H. Cloak and Umbrella Closet
I. Wing Entry.
J. Door to Cellar.
K. Kitchen Door.
L. Servant's Stairs.
M. Veranda.
N. Porch.

By referring to plan of principal floor, it will be seen that the casement windows, opening upon veranda from without, have the appearance of double windows, whereas nothing but single casement windows are seen. This was done for two reasons; first, that the river front might present an open and inviting appearance, (the real and false windows all having venetian blinds,) and secondly, that the real windows might be in their proper places in reference to the Drawing and Dining Rooms. The same device is resorted to in the Library, (C.) while a real double window is seen in the end of the Drawing room, (A.) This must answer as a cheap substitute for a bay window, which would have been desirable on some accounts. Many would also prefer folding doors between drawing and dining rooms, but in this instance they were not desired.



Chamber Floor.—(Fig. 5.)

The contracts are all made, and the building is now in progress of erection, the cost being a trifle over $2,000.

My intention has been to design a cottage that should be economical in its cost, and yet of a character that would harmonize with that beautiful rural district—its undulating bosom, its ancient and luxuriating thorn hedges, with an occasional "brave old oak," or verdant grove of fruit or forest trees, and the whole skirted on the east and south by the broad waters of the Delaware. I trust I shall not be chargeable with the crime of having done any thing to mar the fair face of that beautiful landscape. Yours with esteem,

Newburgh, Sept. 23, 1843. T. M. Niven.

TOBACCO CULTURE—INFORMATION WANTED

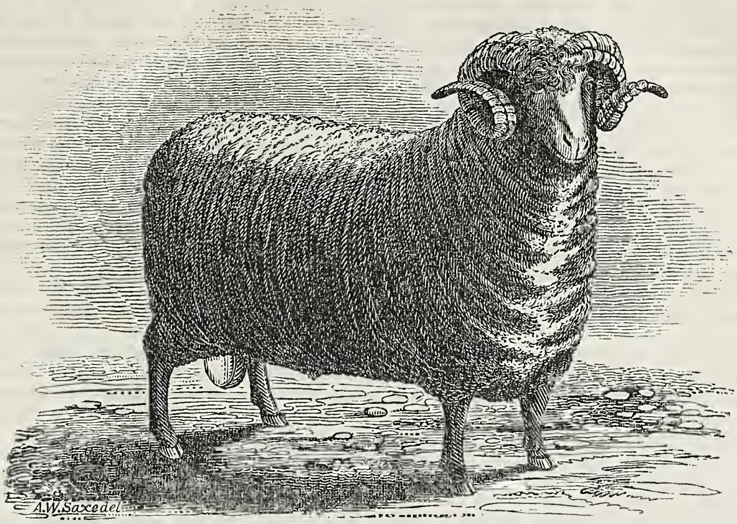
We shall be glad to receive a reply to the following inquiries, from some one familiar with the cultivation of Tobacco:

Editors of the Cultivator—Will you, or some of your southern correspondents, give through your valuable paper, some information relative to the culture of Tobacco, in the latitude of New-York. What kind of soil—time of planting—manner of curing—value in market, and where can seed be procured?

Yonkers, Dec. 1, 1843. H. S.

The U. S. Senate has a superb Brussels carpet made in Germantown, near Philadelphia, of superior texture and rich colors. Scarlet ground with yellow stars. The new President's room has another splendid carpet made in Thompsontown. An extensive manufactory of Brussels carpeting and rugs is carried on in the Sing Sing prison.

By a measurement lately made by one skilled in curiosities, it is found that the silk worm's thread is so fine that one drachm of it will extend a distance of one hundred and eighty-five miles and ninety-two feet, while the same weight of a common grass spider's thread will reach two hundred and twelve miles and seventy-four feet.



"FORTUNE," A PAULAR MERINO BUCK,

Bred and owned by Solomon W. Jewett, *Esq. of Weybridge, Vermont.*

Messrs. Gaylord & Tucker:

The Paular Merino Sheep, when originally imported from Spain into this country, were, compared with the other Spanish fine wooled sheep, large strong animals, with heavy fleeces, containing a considerable quantity of jarr or coarse hair. The form of this variety was good, but they were characterized by a huge dewlap extending from the jaw to the brisket, so plated and doubled, that if severed from the neck, it would extend to twice the length of that member. Numerous large folds or wrinkles in the skin, extended over the neck, and occasionally on other parts of the body. An ugly head, the face often singularly wrinkled; the former surmounted with massive horns, completed the portrait. The wool was exceedingly compact, gummy, black, and hard to the feel when grasped externally. Their weight of fleece among prime sheep of the variety, was from six to seven pounds of wool, (washed on the back,) to the buck, and from four to four and a half, and even five pounds, to the ewe. They were found to bear the cold winters and changeable climate of the U. States, better than any other Spanish variety; and though coarser wooled, and more unsightly than some others, they have ultimately obtained the preference over all.

By far the largest portion of Paulars introduced into the U. States, and perhaps the only large importation of which any authentic history remains, was that made by the Hon. Wm. Jarvis, in 1809 and 1810. This gentleman was acting as the Consul of the U. States at Lisbon, at the time that the Spanish government, pressed by the victorious French, was driven to raise funds by confiscating and selling the property of the Spanish nobles who had espoused the cause of the invaders. The flock called Paular̈s, (from the Paular convent,) were the property of the infamously celebrated Godoy, the "Prince of Peace." They, with two or three other celebrated flocks, (the Montarco, the Negretti, and the Aqueirres,) were in the vicinity of Badajos, and were daily thinned for the subsistence of the Spanish troops. The Paulars were reduced to 7,500, when fortunately they were rescued by three individuals. These were the English Minister, who obtained and forwarded 4,000 to his Sovereign; Consul Jarvis, and Gen. Downie, an Englishman, who purchased the remainder. Mr. Jarvis shipped about 1,000 Paulars to the U. States, with drafts from the other three flocks abovementioned, and 200 Escurials. Some Paulars purchased of Gen. Downie, were subsequently imported from Spain into the U. States.

It may be well here to state that the sheep imported by Chancellor Livingston, were not Paulars, as has been supposed by many, but were from the Rambouillet flock of Merinoes in France. I do not know that this flock belongs to any distinct family, or sub-variety of the Merinoes, but suppose they were originally selected without discrimination, from the prime flocks of Spain.

As in France, Sweden, and every other country to which it has been exported, the Merino has decidedly improved in the U. States. Larger sheep—heavier fleeces—more symmetrical carcases have been obtained, than could be found in any of the early importations. Our colder climate—to say nothing of the skill of American breeders—has increased the fineness of the Paulars; our pastures, infinitely more nutricious than the scorched plains or uncultivated mountains of Spain, have enlarged the carcass, and given weight to the fleece; our breeders have robbed them of a little of their original hideousness! Improvement in the latter particular, might have been carried still farther, had it been *desired!* But a Paular without his "*ruffle,*" would be like a *white* Berkshire—nobody would give credence to his pedigree!

It is often asserted that there are no pure Paulars now in the U. States. Individually, I consider this a matter of the least possible importance. There are sheep which no one will deny are pure Merinoes, that are mainly descended from the Paular stock, and *which are in every point of view superior to the original Paulars.* If they are not Paulars, they are *an improvement* on Paulars. Consul Jarvis, in his private flock, mixed his different varieties as the French did at Rambouillet. In his judgment, it resulted in the improvement of *all.* But Mr. Jarvis kept but a small portion of the Paulars he imported. They were sold in every part of the Union.

For the satisfaction of those who esteem the Paular pedigree, as the lawyers say, a *sine qua non,* I perhaps should state that *there are pure Paulars in the U. States,* in the hands of various individuals? How is this known? How are the pedigrees of our *cattle* known? Have we any thing to show for it, but the assertions of honorable and veracious men? How is the pedigree of a Durham bull or cow placed in the English Herd Book? Is it not done on the assertion of the breeder? Now there are honorable and veracious men who trace back their Paular sheep directly to Mr. Jarvis' and other importations—who had bred them, or knew of their being bred, directly from such imported sheep—and who assert that they never have been crossed with any other variety Are their assertions entitled to less credit than the cattle breeder's assertions?

The portrait at the head of this article, is that of the Paular buck "*Fortune*," owned by S. W. Jewett of of Weybridge, Vt. He was bred by that gentleman, sold by him a lamb, and subsequently re-purchased at $200. Mr. Jewett considered him superior to his celebrated "Don Pedro," so often alluded to in our agricultural periodicals. The fleeces of these animals, well washed on the back, has been as follows:

	Don Pedro.	*Fortune.*
1st year,......	6 lbs. 7 oz.	7 lbs. 9 oz.
2d year,......	9 lbs. 4 oz.	12 lbs.
3d year,......	12 lbs.	13 lbs. 4 oz.
4th year,......	14 lbs.	
5th year,......	13 lbs.	

"Fortune's" live weight is about 140 lbs.

Mr. Jewett states that the full blood *yearlings* of Fortune's get, taking bucks, wethers and ewes together, will average between five and six pounds of washed wool.

The accuracy of the above portrait, I have had no opportunity of testing by personal inspection. Mr. Jewett thinks it an uncommonly faithful one. If so, Fortune is truly a remarkable sheep—better in the fore rib and bosom, and with less dew-lap, than any thorough bred Merino I have ever seen. I suppose in fact, this buck *is* every way a remarkable one. I am satisfied that Mr. Jewett has no design to exaggerate in relation to his fleeces, or in other particulars in relation to his sheep. In proof of this, I offer the following facts:—This spring, I ordered a small lot of sheep of him. He was unable to forward but two—a buck and an ewe. They were about 13 months old at the time of their arrival. I had them *well* washed. To make "assurance doubly sure," I sent a pair of small steelyards to the "sealer of weights and measures," and invited in some neighboring breeders. Both fleeces were accurately weighed by the newly tried steelyards, in the presence of all, and the buck's fleece weighed 8 lbs., the ewe's 5 lbs. 12 oz. On the first day of Dec. inst., I had the buck weighed. Including two light straps, weighing say 1 pound, he weighed 147 lbs. The ewe, I think proportionably heavy. So far, then, my buck beats both his sire and Don Pedro. I never have seen finer formed *pure* bred Merinoes than either of them, nor *finer wooled ones*. The ewe I think decidedly the best I have ever seen. I have a small flock of Merino ewes, which, including yearlings and all, averaged above 5 lbs. of wool per head. A portion of them took the first prize in two counties this fall, but none of them equal the the sheep purchased of Mr. Jewett. Both of the latter, however, and in fact all of them, are terribly *wrinkled*—have huge pendulous dew-laps, and an "apron" (a large flap of loose skin depending from the brisket,) which falls nearly to the ground as they graze.

So, Mr. Editor, I have fulfilled your request to tell you what I know of Paulars in general; "Fortune's" character, pretensions, and progeny, in particular.

Yours truly, HENRY S. RANDALL.

Cortland Village, Dec. 1843.

EXPERIMENT WITH GREEN MANURES.

MESSRS. EDITORS:—The query in your November number, (p. 172,) relative to "green manures," opens a subject which is important to that large section of country where corn usually sells from ten to fifteen cts., wheat from thirty to sixty cents per bushel, and other crops in proportion, and where of course it behooves farmers to manure their lands not only *well* but *cheaply*. Having recently tried some successful experiments with green manures, on exhausted land, I propose to give the results to your readers.

The farm is "bottom" land, 140 acres, slightly rolling; soil originally 4 to 6 inches rich sandy loam, then 2 to 4 feet yellow clay, mixed with sand and loam, the whole resting on a bed of limestone gravel 30 or 40 feet deep. When I commenced my experiments in 1840, about half the farm was moderately fertile, having been cleared from the forest about eight years; the other half, old fields which had been cleared forty years, had been *skinned* by successive crops of corn, and appeared more congenial to mullein than any thing else. My object was to restore these old fields at the least expense practicable. In September, 1840, one of these (30 acres) was sown in wheat, red bearded, 5 pecks to the acre, and in March, 1841, 3 bushels of clover seed sown on the 30 acres of wheat. The crop of 1841 was just 8 bushels of wheat to the acre, and was a fair measure of the average capabilities of the land in its then condition. The spring of 1842 was an early one, and on the 9th of May, the 30 acres of clover being in full blossom, and divided into two lots of 14 and 16 acres, 118 hogs were turned to pasture on each lot alternately, and kept fat without any other food than the clover tops, until the 1st of September. From the 15th to the 24th of September, 1842, fourteen acres of the clover sward was broken up, and with 20 acres of the adjoining *new land*, sown in wheat (red bearded, 5 pecks to the acre.) The crop of 4843, was 18 1-4 bushels of wheat to the acre on the 14 acres of old field, and 14 1-2 bushels per acre on the 20 acres of new land. The average wheat crop of 1843, in this neighborhood, did not equal that of 1841. There is now, without any expense of seeding, a fine crop of young clover on the 14 acres of old field, the remaining 16 acres being under a different course of experiment.

The advantages of this mode of restoring exhausted soils, of the kind above described, where labor is dear and the produce of land cheap, are several:

1st. The expense of preparing and hauling artificial manures is avoided.

2d. The pasturage of the hogs (3 to the acre, 4 mo's,) on clover, pays for the use of the land and expense of sowing and seed. And as hogs eat little else than the clover tops, they do not check its growth, and the dung they leave is as valuable for manure as the clover they eat.

3d. The clover, if not pastured too close, will always scatter seed enough to cover the ground the next year with a new crop.

I ought to have stated that 3 acres of the 14, had 52 ox cart loads of well rotted horse manure, and 3 other acres had 100 bushels of fresh slaked lime scattered over the clover sward before it was plowed in. The land was well plowed once, and harrowed twice. The stable manure produced a slight effect for the better on the wheat crop; the lime none perceptible. I will watch the effect of each on the coming clover crop. I attribute, therefore, nearly all the increase of the wheat crop to the effects of the green clover and fresh hog manure. If I am right in this, the account for 1843 will stand thus:

COST OF MANURES.	GAIN.
50 cart loads horse litter on 3 acres, at 8 c. per load, $4·00	8 bushels wheat at 60 c. $4·80
100 bu. lime on 3 a. at 7 c. 7·00	
14 acres, clover sod and hog manure, paid for by pasture,	140 bu's of wheat, increased crop, at 60 c.,······ $84·00

I do not give this single experiment as a safe basis for any system whatever; but as many of your readers, like myself, occupy lands where any mode of manuring costing more than four or five dollars per acre would occasion a loss, even if the average crop were doubled, an efficient and less expensive mode of manuring than is practiced where the produce of the soil brings a higher price, is much needed, and I earnestly desire to see the attention of the many intelligent correspondents of your valuable and widely circulated paper turned to this subject. Very respectfully,

JAS. T. WORTHINGTON.

Chilicothe, Ohio, Nov. 20, 1843.

CHAUTAUQUE SILK.—From a report of the proceedings of the Board of Supervisors on the 14th ult., furnished by the Mayville Sentinel, we see there was awarded by the board, the sum of $176,79 as a bounty on cocoons and reeled silk, the products of Chautauque co. N. Y., for 1843, to be paid from the treasury of the State, agreeably to a legislative enactment offering 15 cents per lb. on cocoons, and 50 cents per lb. on reeled silk. The amount of cocoons being 1002 lbs.; of reeled silk 59 lbs.

Give hens chalk or egg shells with their food.

NEGLIGENCE AND ERRORS IN AGRICULTURE.

Messrs. Gaylord & Tucker:—I propose as a very proper subject for a paper for the first number of your journal, to point out some of the negligence and errors that farmers allow themselves to indulge in or commit. I have often thought, and still think, that one of the most useful periodicals that could be published, would be one for the correction of errors, called, if you please, "Erratur." Scarcely less valuable, may I not say even more valuable, would be the "Detector of Negligence;" but if both were combined, who can conceive of the value of such a work to the farmer? But enough of introductory; let us proceed to the discussion of the subject.

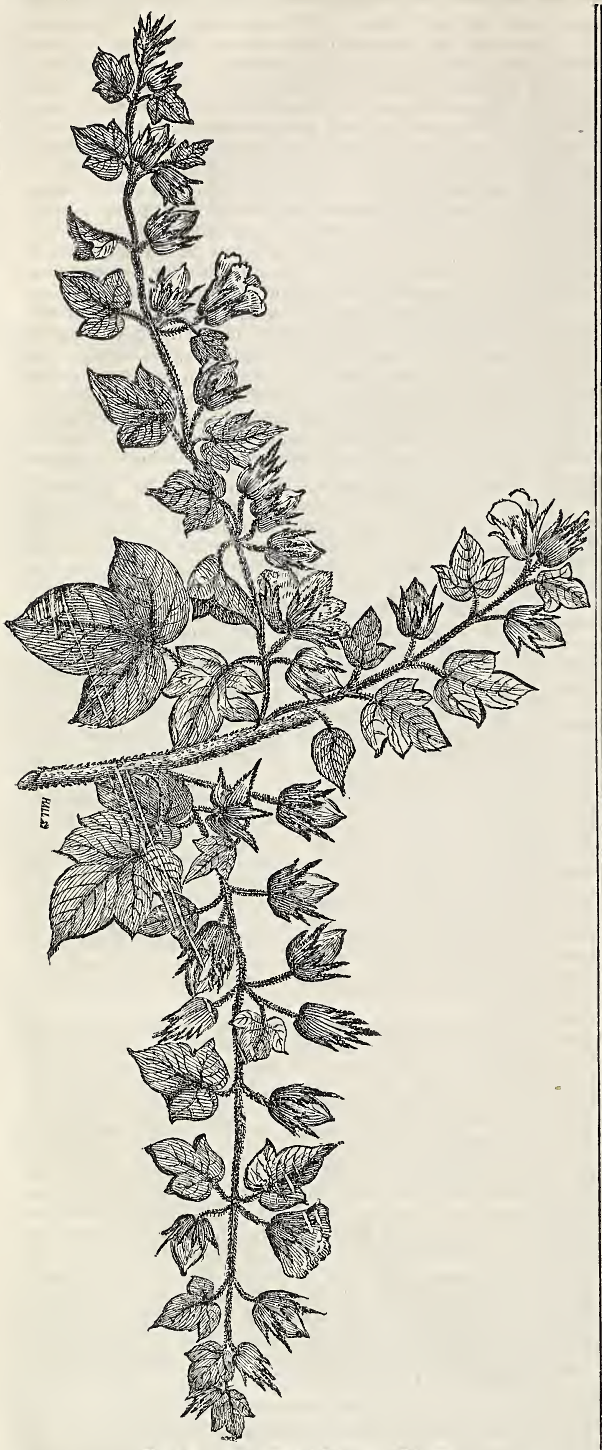
I believe farmers lose as much by negligence as by bad cultivation. Let me illustrate: Whenever I hear a man complain that his grounds are overrun with thistles, with ox-eye daisy, wild carrot, chess, nut grass, &c., &c., I at once say to them, there was a time, and that not long ago, when you might have prevented this evil with five minutes labor. When you first saw that villainous plant on your land, there were but one or two, or half a dozen, and you could have destroyed them with a dock extractor or hoe in a few minutes, but you neglected the opportunity. The next year their seeds were scattered over every field, and you might even then, by a few hours' exertion, have exterminated the whole family; but now their name is legion, and your small force is inadequate to their extirpation, except at the expense of at least a season's crop. This is not all. Your more careful neighbors, on whose grounds a vicious weed was never seen to grow before, are out with their weed-hooks, &c., endeavoring to destroy a noxious weed that they find springing up in all parts of their fields *from the seeds blown from your fields*, and wondering whence they come. Would you do justice to yourself and to all your neighbors? In all your walks over your fields carry in your hand a weed-hook, with such fixtures on the end as will enable you to pull up a narrow leaf dock by the roots, and never allow one of these or any other noxious weed to stand one minute after your first discovery of it. Do not, as many negligent farmers do when they see a weed of this kind, pass on, saying to yourself, "I will send a hand to destroy this thing, on my return to the house." That is not the way to destroy it. You may, and most likely will forget it, on your return to the house; the hand may not be able to find it: he may not destroy it effectually, if he does find it; he may not look for it, (because the land is not his, the crop to come is not his, he is sure of his month's pay at all events, he has no interest in its destruction.) In all your walks over your farm, let the staff in your hand be a well constructed weed-hook; you can walk as well and protect yourself as well with such a staff or cane as with any other. Now this is the way to rid yourself of all noxious weeds, or rather to prevent their formidable appearance. Begin at the beginning, with these pests, or with any thing else. Put a new rail in that panel, in place of that rotten one yonder; do it now, don't wait till the broken rail invites some stray animal to leap into your cornfield, and in doing so breaks half a dozen other rails. Take a spade and drain off that pool of standing water in your wheat field yonder, and as you go along cut off that summer sprout or young shoot that is just starting from the limb of that apple tree, that favorite tree of yours, and mind, hereafter don't let such things grow on any of your trees. Take a small spade and dig up all, every one, of those butter cups, (*Ranunculus bulbosa,*) in your cow and sheep pastures, and as soon as you see a single plant of that poisonous plant hereafter, destroy it instantly. Don't you know it is one of the most deadly poisons to cattle and sheep that can be found. It does not kill, it is true, at once; but it is a slow poison, and ultimately kills any ordinary animal that eats it; besides, it poisons the milk of cows, and is supposed to be the cause of the "milk sickness" of the west.

Errors in farming or agriculture, are as numerous as instances of negligence, and even as deleterious. That was a capital error of yours, sir, in supposing that because you had a thin soil with a clay substratum, you must not plow deep. Why, my dear sir, if ten years ago you had begun to plow deep, you would at this time have had a deep soil, instead of this thin skin that is made still thinner every time you *scratch* it. Plow deeply, as deep as you can, every time you plow, and in a few years you will have no reason to complain of short crops from drouth, or of winter killing from hard winters, nor of short crops from any thing else. Don't try too much of it! Try all new things in a small way. If you had tried but one acre of that new spring wheat, and kept trying one acre till you found it to be, or not to be, what it was cracked up to be; or if you had tried but one bushel of those new potatoes, for two or three years in succession; or if you had tried a quarter of an acre of that new Spanish clover, till you had found out what it was worth—if you had done all these, you would not now be complaining of loss by experiments. Go upon, in all cases, the wise proverb of Solomon, or St. Paul, I forget which, "Try all things, and hold fast that which is good." But Solomon or St. Paul, whichever it may have been, meant that you should "try all things" in a small way, until you found them "good."

Errors in judgment are so numerous, so universal, that it is difficult to point out examples; there are so many of equal importance, that we can hardly choose which to take; but that farmer yonder who throws his stable manure out of the window of his stable, on the side of the hill, and allows it to remain there from month to month, to be washed by every rain and bleached by every day of sunshine, commits not a greater error than him who purchases manure at a distance, employs teams and hands to haul it to the farm, all at a heavy expense, and at the same time overlooks, or omits to avail himself of, the numerous sources of manure that are staring him in the face every hour of his life on his own premises. "My father hilled his corn, and made good crops," says one; forgetting, as it would seem, that his father's land was new and could "stand any thing." "I have the tallest corn, and will have the greatest crop of any in these parts," says a Saratoga county farmer who had obtained some seed of the tall southern corn, in a tour last year to the south; forgetting, or not having recollected, that corn that may make a good crop in the south, will not necessarily do so in the north, until the first of October nipped all his prospects in the milk. He had not duly considered that plants have their climates as all things have their seasons.

But I must bring my discourse to a close, and will do so by a summary illustrative corollary: Two white millers, or moths, entered the gardens of two citizens, in the spring: one, of course, in each. The owner of each garden was present, and each saw the little creatures. One of the citizens instantly caught and killed the insect; the other allowed it to pass on, paying no attention to it. In mid-summer, the garden of the first citizen was free from caterpillers; that of the other was completely denuded of foliage, with bugs and offensive insects on every shrub and plant. "Why," says the latter to the former, "how happens it that you have no caterpillars, while my garden is devoured by them?" "I killed the first miller," says the former, "you let it live, lay its 500 eggs, which in two weeks turned out 500 caterpillars, and then in their turn, in a few weeks, each 500 more, and so on till you have your millions of insects, and I have none." G. B. S.

Messrs. Editors—Having seen an article in the Oct. No. of the Cultivator, respecting Nut Grass, I will give a slight description of the kind to which I presume your correspondent must refer. The grass to which I refer, makes its appearance in this climate I think, about the middle of June; the blades shoot forth in bunches of perhaps five or six, increasing in numbers however, as it advances in age, but never rising to form a stalk, always lopping off at the top of the ground; the leaf a beautiful glossy green, and at the root, (which runs to some depth,) may be found a nut resembling somewhat in size and shape the beech nut. I never knew it to grow in very thin land. To destroy it, is no easy matter, I think. A Subscriber.



THE COTTON PLANT.

Drawn from nature, by Mrs. S. H. BOURNE, *for ' The Cultivator.'*

THE above engraving represents the thirty-fifth and thirty-sixth limbs of a stalk of Dr. CLOUD'S improved Cotton. The plant from which the drawing was made, was topped 10th of July, and was 6 feet and 4 inches high. Dr. C. informs us that great care was taken to make the drawing perfect, and that he has never seen a more correct likeness. We tender our thanks to Mrs. Bourne and Dr. C., for affording us this opportunity to present our readers with a correct drawing of even a part of the Cotton plant; and we hope they will hereafter furnish us with a correct view of the whole plant, reduced to a size suitable for our paper.

THE IMPROVED CULTURE OF COTTON.—No. III.

MESSRS. GAYLORD & TUCKER—Entertaining the profoundest respect and the kindest feelings towards the opinions and practices of those planters who are greatly my seniors in age and in agricultural experience, I propose now, in this third paper, to engage in discussing "the principles and philosophy of this improvement in the culture of Cotton." I will first remark, directly, gentlemen, what I have intimated throughout this correspondence—that in conducting these experiments, and in advocating the claims of this improvement, (the leading and meritorious features of which belong to your invaluable Cultivator,) I have had no ambition to gratify, which is not common to the lover of science and agricultural improvement; nor have I any interests to subserve thereby, which may not be the privilege of every planter in the country, however humble his pretensions or ability. Yet, admonished as I have been, by the precipitate and unmeasured tirade of vituperation and spleen, which my first paper excited among the *corps editorial* of the country, and others of the "skinning gentry," I have not ventured upon this most delicate position, though long promised, without again revising carefully and practically, the principles and ability of this system.

In my first paper it will be recollected, I stated the grand object which this system of improved culture proposes to accomplish for the planting interest of the country, and I also gave there a fair and impartial, and a most satisfactory expose of that system, (if such it may be styled,) by which the cotton plant is at present grown. In my second number, I gave in detail, in an equally plain and simple manner, the *modus operandi* by which my experiments were conducted; this was no second hand report, or say-so of another person, but in part the work of my own hands, and the entire management under my immediate supervision. In this paper, I propose giving *the why and the wherefore,* for all this—at least, in my humble opinion; and to point out the *inconsistent,* the *reckless* and *grassy* policy of the present practices of the country, as compared with the *systematic, economical* and *philosophic* policy of this improvement.

It is my purpose, gentlemen, first to give you a correct sketch of the botanic characteristics of the cotton plant, as we meet with it under the circumstance of its most favorable culture. I do not offer this in the spirit of ostentation, to appear learned from the technicals used, (the necessary peculiarity of every science.) My object is simply to call attention to a subject—too much neglected by planters—about which the books are carelessly in error; and a proper knowledge of which, in my opinion, tends greatly to indicate the best or right mode of culture.

The botanic name then, of the plant we cultivate, is *Gossypium herbaceum;* we find it in the fifteenth class of the Linnean system, (*Monadelphia,*) and in the thirteenth order, (*Polyandria.*) The first leaves that make their appearance after the cotyledons, three to six, are *ovate,* and indicate certainly the sucker or branch limbs, that will first put out from the stalk. After these, we have the cotton leaf proper, *three to five lobed,* and mercronate, with one gland upon the *mid-rib* beneath; these leaves invariably indicate the arm limb, growing out horizontally, and articulated, forming at each joint one or more balls; coming out with the arm limb, we have almost invariably a branch limb, with several balls—or a stem with one to three balls. The stalk is *ligno*-herbaceous and *pubescent*—and in our climate an annual, attaining the height of *six to ten feet.* The period of flowering is from 10th *June to frost;* the calix double, the outer one three-cleft; capsule, 3 to 5 *celled*, with 7 to 9 *seeds* in a cell, involved in the staple. Early in the morning the *milk white** bloom may be seen, in the form of a conic scroll, emerging from the fringe work of its outer calix; and with the rising sun it unfolds the segments of its petal, and by one hour by sun we behold the full blown bell-formed flower. Thus, blooming white, it remains till 12 o'clock, when within 15 minutes thereafter, we may observe by the naked eye, a faint ray of pink skirting the thin margins of the segments, which pink color may be seen by one to two o'clock, to have diffused itself throughout the bloom. It thus continues changing from white to red, till sun up the next morning, when it will be found a beautiful brilliant pink; now with the rising sun it gradually wilts, and by 12 o'clock it drops off, leaving a distinctly formed ball, securely sheltered by its calix.

This description, which is strictly correct, differs in several of its particulars from Eaton's, and from the miserably erroneous engraving and description of the same, to be found at page 307 of "Sears' Wonders of the World;" and yet strange to say, this same engraving, with probably but a single correct feature, is copied into the "American Agriculturist," in illustration of an article by Dr. Philips. I might point out a half dozen errors in that engraving; it will answer my present purpose however, that I detain you with but two or three such notices. You will first observe the bloom and the description given, and you will agree with me at once, that Mr. Sears has been *bugged* by an okra flower; the cotton bloom in its healthy state, is never so much flared, nor has it any *red spots* in the bottom. Observe again to the left, that young ball with its *drooping calix*; that is altogether unnatural, and is never seen except where the worm is or has been. You will observe the same error in the opening ball; every little boy, who has picked but fifty pounds of cotton, will tell you if that were the fact, there would be no trashy cotton. I am sure Dr. Philips has detected these blunders, with others equally evident. This I suppose will be considered a small matter, about which nobody is at fault; because even intelligent planters have never thought it worth while to give a correct description of the cotton plant. This same carelessness is observed, when we cast our eyes upon the large map of Alabama; we there see a most imposing engraving of a large *fancy plant*, with its one hundred and one errors, if called a cotton plant. Observe again, the beautiful and chaste vignette of our own excellent and cherished *Southern Cultivator;* we see there an engraving designed for the cotton plant, yet I am sure if the *pendent* open balls were painted *red*, you would sooner take it for a pomegrante bush!

To the planter who is satisfied merely to plod along the inanimate imitator of some skinning neighbor, this sketch will appear a tedious and uninteresting detail. I am convinced, however, of its importance,—and there is a spirit of improvement abroad in the land, which requires just such detail of fact; because it is not possible, at least it is extremely improbable, that we succeed in improving and perfecting the culture of any article of vegetation until we make ourselves *well* acquainted with its natural characteristics. Hence I remark, that when we look upon the stately pyramidal appearance of an improved cotton stalk, grown under favorable circumstances, we observe at once—indeed, we are forcibly struck with the distance proper in its arrangement upon the soil, which is so clearly indicated. Again, we observe an uncommonly large amount of foliage for an annual, besides some 3 to 4 lbs. of seed cotton upon the stalk—literally crowded from its base, upon an area of some 15 to 20 square feet, to its apex, at the height of 6 feet. Now in view of these clearly established facts, the invariable effect of certain well defined causes, I shall not suppose any planter so dull as not to know what course to pursue, if he find that it require a given amount of grain to grow a pig to a given size in one year, that to produce another such pig the next season, the necessary amount of food or grain must be first supplied. Without the food, the pig will be found at the end of the year a *landpike;* and so the cotton, without the geine or manure, will be found, as is too common, the *little Federick !* Were I to assume an affirmative position in this analogy, every planter would reply instanter, and most indignantly too,—Sir, you are behind the times; our own sage Franklin, more than a half century ago, in his friendly advice to Poor Richard, has assured us "that by constantly taking out of the meal tub and never putting in, we shall soon find the bottom." Philosophically true this—good homespun and sound doctrine; yet plain and simple as be this doctrine, the cotton planter knows it only in song—his acquaintance with this golden truth is theoretic entirely. His exhausted fields and dwarfish puny cotton, tell tales more positively contradictory and gloomy, than I have room or inclination here to enumerate.

The governing principle then, in this improvement, is to give constant and diligent attention to keep the *meal tub well supplied.* In the first place, produce and haul out upon your land a sufficiency of good manure, fully to supply the requirements of the plant all the season. In another place, I have shown that it is a perfectly easy matter to produce this manure, to which I will further add here, that the decaying materials abound spontaneously, scattered up and down, filling each nook and corner on every plantation, during all the season, a wasting nuisance that might be easily collected and converted into a profitable revenue, if but one-third the time and attention otherwise sedulously consumed in the butchery of the soil, in a petit war against grass and weeds, the inevitable produce of such latitudinarian systems of culture, was devoted to that most valuable employment. In this important department of agriculture, science is actively engaged in rendering the planter the most essential service.

Having derived these important indications from the figure and natural characteristics of a perfectly matured cotton plant, the judgment of the planter is brought into active requisition in properly adjusting its relative position in width of row and its situation on the drill, in order that we secure the greatest possible advantage in its subsequent culture. My own experience inclines me to the opinion that when land is improved only to the extent of 150 to 200 bushels of manure per acre, less than fifteen square superficial feet to each stalk will be too close. Nor will improvement carried to five times that extent, require greater distance than twenty square feet to each stalk. Since, then, it is found necessary that each stalk occupy this distance, it would appear that the simplest course would be to lay off the rows equi-distant each way. The question is frequently asked, "Why not lay off the land 4 by 4 feet, or 5 by 4 feet ?" There is a very serious objection to this simple plan, which every planter must perceive on a moment's reflection. In either case, the cotton will be found so entirely interlocked by the 20th June to the 1st of July, as to forbid further work; yet we find, under the most favorable circumstances of seasons and culture, that it will take the stalk until the 10th July to attain the height of six feet, short of which we should not top it, nor earlier in the season; and it is very desirable, and highly necessary even, that the cotton be swept once after topping it, which we find impracticable unless the rows be laid off wide one way, with a view to that desirable operation. Upon land then, that is but moderately improved, I prefer the rows north and south 5 feet, by 3 feet east and west; and upon land in a higher state of improvement, 6 feet by 40 inches will be found the best distance. Though we shall find the stalk a little crowded the narrow way by this course, yet we secure the more important advantage, in being able to scrape and pulverize the surface later in the season. I suppose there to be other advantages likewise, in this plan of laying the rows at right angles, north and south, and east and west, and bedding the land north and south, to which, however, I must refer at another time.

The next object to which I shall direct your attention, is the mode of culture which I conceive to be necessary in the after management of the cotton plant; the correctness, and even superiority of which, I hope to establish as clearly here, as in practice it has so triumphantly succeeded. The constant and invariable success which attends this improvement in my hands, is the result of a *strict and scrupulous adherence to system in its management.* Every science and every profession among men, which is either useful or valuable, acquires both respect and importance on account of system. System is essential to certain success in every undertaking; and especially is it necessary in this first of all professions. The principal object we have had in view, in all this manuring, thorough plowing, laying off and bedding the land previous to planting the seed, has not been to plant alone; men plant abstractly, as handsomely and with the same facility, with less labor; it has been done to encourage and facilitate the early and extensive growth of the fibrous and soil roots, by which means the plant readily, and equally early, augments the extent of surface (in number and length of its limbs,) for fruiting, and the consequent number of its organs of atmospheric nutrition. The immense advantages which the plant derives from an early accomplishment of an object so desirable, is at once obvious when we recollect "that the soil and atmosphere offer the same kind of nourishment to the roots and leaves of the plant." There can be no reasonable doubt, though we possess not the means of positive measurement, but that the plant multiplies its organs of atmospheric nutrition in precisely the same ratio that an improved and judicious system of culture facilitates the growth and prosperity of its roots. There is also another interesting consideration connected with this subject, which I esteem worthy of notice in this place; which is, that though the soil and atmosphere offer the same kind of nourishment to the roots and leaves of the plant, yet the character of its assimilation and consequent appropriation widely differ. My own opinion is, that the roots assimilate food for the production of the stems and leaves mainly, and that the leaves assimilate the same for the production and maturity of the blooms and fruit. I do not claim originality for this opinion; I think I have seen it hinted at in some work on vegetable physiology, though I cannot now say where.* I have been governed by this impression, at least in conducting my experiments, which have not as yet been of a sufficiently varied character to enable me to determine and assert the fact positively. My attention was first called to this interesting subject while investigating the cause and effect of rust upon the cotton plant, which every planter has seen, some of the features of which would seem to strengthen this position. How desirable is it, then, if all this be fact, that we adopt such system in our after management as will not only preserve this natural chain of action unimpaired, but encourage its progressive prosperity? It is not enough, however, that we thus dismiss this part of the subject; its importance requires of us a much more simple and extended view.

---

* The Sea Island Cotton bloom is yellow.

We will commence then, at that age of the plant at which it is first worked, by examining the roots of two stalks: we pull up one in the ordinary way of thinning cotton, that is, we take hold of the stem and draw it up, and we have a single long root (in most instances) tapering to a point; we have simply the tap-root. We will take up the other with a spade or hoe, the stalk standing in the center of some six to eight inches square of soil; we then gently sift or shake the soil from the roots, and we have a fair specimen of the cotton root: we have what is properly meant by tap-root, a plant with a main root long and tap-like or tapering, dipping deep into the soil; beside this tap root, however, we find an almost innumerable quantity of fibrous or surface roots diverging in every direction, as long in many instances as the tap root itself, and coming out generally from one-half to one inch below the surface. This is a fact worthy of notice, with which every planter may, if not already aware of it, acquaint himself early the next season. This may appear to some persons a very simple and a very trivial investigation, yet I find in it a most satisfactory solution of the immense injury which the cotton plant sustains from the multifarious policy of the country. I remark then, as the plant comes forward, so the tap-root (where it exists, though an unnecessary appendage in our climate,) sinks deep into the soil, while the fibrous or surface roots multiply and shoot in every direction; hence, I say, "as early as possibly convenient" after the plant is up, "plow out the middles *well*, the wide way, having first run around the plant with a scooter plow." The main object in this operation, is once more, before the surface roots [illegible] come out so far as to sustain injury, to thoroughly [illegible] the soil and again commingle it with the manure. The plant being now thinned down to two or three stalks in a place, and a small quantity of soil molded about the hill, is left in this most favorable and growing situation. In the course of some fifteen to twenty days, when we return to work it again, it will be found to have come forward rapidly, standing from 12 to 15 inches in height and finely limbed. If we now take the trouble to examine a hill or stalk, we shall find an amount of earth included within the circuit of these fibrous and soil roots, as they penetrate all parts of the loamy mold in pursuit of the luscious geine, (like a flock of sheep fresh upon a rich pasture,) that will weigh more than a hand can tote. With these facts before us, let us turn our attention for a moment to the practices of the country at this stage of operations. One planter will now commence work, and the plant standing from 10 to 12 inches high, "with a bull-tongue or scooter plow," and he will dagger into the soil, as close to the plant as he can possibly get, some 3 to 4 inches deep —he says, "to loose up the earth, that the tap-root may go down." Another planter will again, the second and third time, run the bar of a turn plow to the cotton—he says, "to kill the grass;" thus it stands bedded in the middles, and "steaming" a few days, when these hot beds are plowed out; though I have even seen it barred the third time before plowing out the middles! All this may answer the *purpose fully,* and even look very well to the planter that operates to kill grass; but we have a latent cause operating destructively in this practice, and though the *certain effect* is not always willingly recognized in the turning yellow aud falling leaves of the plant, it is not however the less obvious. The planters operating thus, will tell you, in the first instance, "this cotton has received a fine working; there's not a sprig of grass or weeds to be seen; but it does not grow off as it should; this *little dry spell* has checked its growth." But partial showers may have fallen upon the other man's cotton; he says, "See my cotton; how clean and nice its worked, though it is too wet, and does not grow; *rainy weather* does not suit cotton." This is the logic (I will not say universal,) of the devotees of this *grass killing* policy, in accounting for its disastrous consequences, and will, I am sure, be very readily recognized as such by every impartial man. Now, the truth is, I will illustrate the whole difficulty here, by a very simple, though rather uncouth simile; it is however not the less pertinent to my present purpose, because men are not to be benefitted, nor will they improve in the practice of any science or profession, unless they exercise the faculties of thinking and reasoning, though such exercise be bought at the expense of decent ridicule. We will suppose the planter operating in this way, having received a pair of fine Berkshire pigs, says to his trusty man, Sambo, "take this bushel of corn to the barn-yard and feed those pigs well; I want them to grow *large* and *fat.*" Well, Sambo, always anxious to carry out the views of his master, and having carefully watched his operations in the treatment of his cotton, to make *it grow large,* takes up the basket, and then providing himself with a hammer or hatchet, he proceeds to the yard; he first takes hold upon the gentle, unsuspecting grunters, one by one, and with his instrument he knocks or breaks out their teeth, and then throwing down the corn, he returns to the house with spirits buoyant in the consciousness of having so consistently discharged his duty! "Well, Sambo, you have given those pigs plenty of corn, ha?" "Yes, sir, they are well fed." In a few days he takes a friend to look at the fine Berkshires. Yes, Sambo has given them corn plentifully; there it lies by them! But this is too plain a case; the pigs have the *teeth-ache, and they are broken off, too!* neither the wet nor the dry weather has caused the mischief here! And yet the pigs, like the cotton, have only *their teeth broken off!!* Poor Sambo! we leave him to explain to the world the rationale of this *root and teeth breaking policy.*

---

* Since writing the above, I see, in a report of the sitting of the Academy of Sciences for August the 14th, a paper was received from M. Dutrochet, on the production and ripening of fruits. This gentleman states "that the removal of the leaves of fruit trees, in order to expose the fruit to the direct influence of the air and light, is exceedingly destructive" I suppose he means destructive to the fruit. If so, his experiments would seem to corroborate this opinion.

N. B. Cloud, M. D.

Macon Co., Ala., Nov. 1, 1843.

(To be continued.)

LETTER OF MR. ELLSWORTH—BOMMER'S PATENT.

We invite the attention of the readers of the Cultivator to the annexed letter of the Hon. Mr. Ellsworth, chief of the Patent office at Washington, on the subject of patents, and the claims of Mr. Bommer in particular. There is no subject in the whole range of agriculture, of more interest to the farmer, than that of manures; and any improvement in its manufacture, by which its quantity and quality may be increased, will be received by them with favor. That manures made in the way recommended by Mr. Bommer, or according to the patent claimed by him, are of superior quality, no one acquainted with that method can doubt. But if, as Mr. Ellsworth seems inclined to suppose, it is only the French method, with some unimportant additions, so far as the making of the manure, or its quality is concerned, that method should be generally known, that all may avail themselves of its advantages, and we thank Mr. Ellsworth for enabling us to give the specifications a place in the Cultivator. We have given the large pamphlet, just published by Mr. Bommer, and containing an ample account of his method and its advantages, a copy of which he has kindly placed in our hands, an attentive perusal, and can safely say there are few if any publications on the subject there discussed, whatever may be their pretensions, which combine such a mass of practical instruction on the preparation and use of manures. Of the legality of the patent under which he is acting, we do not express an opinion; but we know that the method used by him, and described in the pamphlet, a copy of which is furnished every purchaser of a right, will make manure in any quantity, and of the best quality for almost every kind of cultivated crop. Of the French method as described in the specifications, we are not competent to judge, having never witnessed its effects; we should, however, prefer purchasing Mr. B.'s book, in which the whole process is detailed.

LETTER FROM MR. ELLSWORTH.

Washington City, Patent Office, Nov. 3, 1843.

Messrs. Gaylord & Tucker—I noticed in your last number of the Cultivator, just at hand, a particular notice of Bommer's process,—also his advertisement announcing "Bommer's manure method, secured by letters patent," and referring to "documents recorded in the patent office," to prove his rights. This advertisement has greatly increased the burden of answering requests for copies of "Bommer's Patent." Whilst I have studiously avoided expressing an opinion on cases pending or decided, yet as special reference is now made to the bureau to sustain the advertisement, and fearing that the public may be misled by my silence, I hasten to state the facts as they appear of record. Mr. Bommer, on the 12th of May, 1843, presented an application for a patent for making manure. This application was duly examined, and rejected for want of novelty. No appeal was taken. The application was withdrawn, and $20, the usual sum allowed on withdrawals, paid to Mr. Bommer on the 6th of July last. No other application has been made by Mr. Bommer for a patent for similar purposes.* It may not be improper to state that Messrs. Baer & Gouliart, in June, 1843, obtained a patent for an alleged improvement on the method of making manure, patented in France by Juaffret, which said method, however, has not been patented in the United States, and is therefore free to the public. How far the public are restricted in the use of foreign inventions, may be ascertained by referring to the claim of the American patent, which, you will perceive, is restricted to the preparation of the *heap* and the mode of *applying* the lye to the same; the *ingredients*—in other words, the *lye itself,* not being claimed. That no injustice may be done to the parties concerned, I send you a copy of the American patent, and only add that Mr. Bommer has become an assignee for several states, under this last mentioned patent.

Yours, &c. H. L. Ellsworth.

COPY OF BAER AND GOUILART'S PATENT.

To all whom it may concern: Be it known, that we Charles Baer and John Gouliart, of the city of Baltimore, in the state of Maryland, have invented certain new and useful improvements in the manner of making manure, which has been for many years practiced in France, and has been there secured by Letters Patent under the name of "La Methode Jauffret," and we do hereby declare that the following is a full and exact description thereof.

In the method of Mr. Jauffret, a pit or reservoir is prepared of sufficient size to contain the quantity of prepared lye which may be required by the nature of the establishment. This reservoir or vat is intended to be a receptacle of water saturated with decomposed animal and vegetable matters, and is further to receive the ingredients hereinafter named; such water is to be found on nearly every farm, and it may be augmented by the drainings of stables, by dish water, suds, and other substances of a like nature.

Mr. Jauffret, however, finally prepares his lye, by which the fermentation of the articles to be converted into manure is to be promoted, in the following manner, under various modifications.

For the conversion of from one to two thousand pounds of vegetable matter into manure, he takes about

200	lbs. of night soil,
200	" calcined plaster in powder,
50	" wood soot,
20	" wood ashes unleached,
60	" quick lime,
1	" common salt,
1	" rough saltpetre,
150	" lye or ferment drainings from a Jauffret manure heap.

These ingredients are in many cases to be replaced by others; this lye to be prepared 10 or 15 days before use. The quantity of materials abovenamed, for the conversion of from 1 to 2,000 lbs. of straw or other dry vegetable stalks, will answer for about double that quantity of green vegetable matter.

In using this lye, the plan of Mr. Jauffret is to steep in it the vegetable fibres, which are to be acted upon by throwing them into the vat or reservoir containing it, and removing it thence at great labor so as to form a high heap in the vicinity of the vat, into which the drainings are allowed to run.

We have thus given a brief outline of the method of Mr. Jauffret, the same appearing necessary to the understanding of our improvements, which consist in our omitting altogether the excessive labor of steeping the materials to be acted upon in the lye, and elevating them from thence to the heap; and also in the preparation of a lye, which is equally effective with that of Jauffret, at much less cost, and which can be used immediately on its being made, thereby saving the delay of 10 or 15 days which "La methode Jauffret" requires.

We prepare a reservoir to contain the lye as usual, and in the immediate vicinity of this, we make our stacks or heaps of vegetable matter, which is to be converted into manure.

We give to the ground, where the heap or pile is to be made, an inclination towards the vat; if the ground is a firm clay, it may be merely sloped, and have shallow trenches dug on its surface to conduct the drainings back into the vat; or it may have a flooring of timber, brick or stone, as may be preferred, which may be so trenched as to conduct the whole towards a central drain. When our platform or flooring is of clay, we cover the trenches and whole surface of it with brushwood or rails, so as to form a temporary grating that will support the weight of the heap, and thus insure a drainage, and the admission of air to the heap from below.

---

* Mr. Bommer informs us that on finding his own claim rejected, he was induced to make an arrangement with Baer & Gouliart, by whom his claim was again presented, and the patent secured in their names —Eds

The materials to be converted into manure, we pile up on this prepared platform immediately as it is delivered by the carts, and this we sometimes continue to do until the heap has attained the whole height to be given to it, when by the use of a pump, buckets, or other suitable means, we raise the lye from the vat and pour it on to the heap, continuing so to do until the whole mass is saturated; we in general, however, raise the heap to a height of two, three or four feet, more or less, and then pour on a portion of lye, repeating this as the height of the pile is increased; this procedure obviates the necessity of lifting the whole of the lye to the full height of the heap.

The materials which we employ in making the lye, may be limited to the following, namely: cow, horse or hog's dung, or night soil, the urine draining from stables, and quick lime. The ingredients used to be intimately mixed with a sufficient quantity of saturated water.

Two of the kinds of animal dung we have found to answer as well as a larger number. A perfectly good lye will be made by taking one barrel each of two of the species of dung, two of the urinary drainings, one of quick lime, and about 50 barrels of saturated water which is then to be used as above explained.

What we claim as our improvement on Jauffret's method of forming manure by the rapid fermentation of vegetable fibres, is, first, the forming of the said vegetable matter into piles or heaps, without its being first immersed in the prepared lye, and the subsequently saturating the same by the pouring on the lye in the manner set forth.

Charles Baer,
John Gouliart.

Witnesses,
Th. M. Abbett,
J. R. Abbett.

(Patented June 24, 1843.)

HEREFORDS—THEIR DAIRY PROPERTIES, &c.

Messrs. Gaylord & Tucker—According to promise, I send you the result of my dairy; but it will not be any criterion to judge from, although the *actual weight* is taken from the book of Mrs. Sheldrick, who has kept a *correct* account of every pound made.

I had no dairy to keep my milk, in the month of February, when six of my cows were milking, and not one pound was made from them during that month. Three of them calved in January.

There were nine three year olds, two four, and one seven, milked during the month of March. I sold Cherry, a three year old heifer, on the 2d of April. From that time until the 1st of Oct., I milked eleven, at which time I sold my milk to the milkman. The following is a true statement:

From March 1st to Oct. 1st, Butter,	1,456½
35 Cream Cheeses, 3 lbs. each, equal	105 lbs. butter.
113 quarts of Cream, sold, equal to	113 lbs. butter.
	1,674½

My opinion is that the same cows next year, will make nearly double the quantity; for my first cow Lucy, 4 years old, calved Nov. 28, and made 8 lbs. 2 oz. last week; the only cow I have now in milk.

I quote from the Mark Lane Express, the following remarks from a speech made by the celebrated breeder, W. Fisher Hobbs, Esq., at the annual meeting of the East Essex Agricultural Society, Oct. 11, 1843:

"He could not, however, conclude without making a few observations as a successful candidate. It had frequently been his good fortune to appear before them in that character, but he never felt so much pleasure from the circumstances as on the present occasion; for it must be admitted on all hands, that except in a few instances, the competition was very good indeed, and in some cases very severe struggles.

"He was the more happy, as a great victory had been gained for a breed of cattle, for which he was a strong advocate. He did not think, as *judges* were generally *prejudiced* in favor of Short Horns, that Herefords could have been so successful as they had that day been.

"When he first became a farmer, he was *determined* to have a good breed of cattle. He first tried Short Horns, because he thought they were the *best;* and at a sale in Suffolk, he purchased several, better than which could not be obtained. He also purchased some Herefords, and kept them together for twelve months, and the result was most decidedly in favor of the Herefords. He was therefore compelled, *contrary to his own wishes,* to give up the Short Horns and take to Herefords; and he had from that time continued to do so, being satisfied that with his soil and climate, they paid the best. (*Hear, hear.*) He trusted the farmers whom he was addressing, would do as he had done, and judge for themselves what description of stock was best suited to their farms; and and when they were satisfied that they had a breed which would prove *most profitable* to them, he would advise them to *keep to them;* and if they came here to exhibit them and were occasionally unsuccessful, he would advise them to go home, with a determination of meeting with more success on a future occasion. (Cheers.")

Be it *remembered* that Mr. Hobbs gained the first premium as the owner of the best cow *in milk, of any breed, with a Hereford. What will the pen depressers of milking Herefords say to this?* Will they not have to put on their "studying caps" to find some endorsers for "*Youatt?*"

Again, I refer you to a sale of Herefords in the Mark Lane Express Oct. 30, page 12, the property of Mr. John Hewer. "An in-calf cow, Lady, by Chance, was knocked down for 100 guineas, ($500;) two year old Victoria, at 87 guineas, ($435;) yearling heifer, 40 guineas, ($200;) an aged bull, Dangerous, (the sire of some of my heifers,) 100 guineas; Lofty, a bull calf, 51 guineas, and several others at similar prices."

What does this say for the Herefords? Will it not "*prove*" *that some writers know nothing about them?* and will it not *teach some of them* to search for facts before they "*abuse the Herefords?*" I refer you again to a sale at Algarkirke, of an excellent herd of short horn cattle belonging to Mr. Rogerson, same paper for Oct. 23, p. 12: "Nonsuch, two years and six months old, was knocked down at £27 10 s., ($136.68,) a very fine animal; others fetched from £20 to £25. Altogether, the sale has been highly satisfactory, and reflects equal credit on the breeder and auctioneer. *Young Spectator* was on the ground and was much admired."

Such comparisons as these are the *true standards* for other breeders, and it is gratifying to find such authority to substantiate the *facts* I have previously stated. I have an own sister to Lady, several half-sisters to Lofty, and two half-sisters to Victoria; and they came from the *bleak hills of Gloucestershire,* from the herds of William, John, and Joseph Hewer.

I do not think an "*extraordinary*" milker is a profitable animal for the farmer. If I can keep my cows up to from 6 to 8 lbs. each, for nine months, I will be perfectly satisfied; nor do I think that three herds in twenty, will do more, unless selected *entirely* for that purpose. We all know that a great quantity of milk requires to be forced with extra feed, and when such a cow is dried for the grazier or feeder, I want him to keep an *accurate* account of food consumed, and the *price* sold to the butcher.

One more statement, and I have done. I do not think there are many breeders in this country who are willing to give a remunerating price for a good animal. The butchers have far more spirit than *breeders,* and my object in future shall be to serve them. If breeders want this stock, let them go to England and fetch them; they will then know their *true* value. At present, I intend to make steers of all. Nor do I intend to show another animal for a premium in this country, so long as a combined prejudice exists.

I conclude by saying that the Hon. Erastus Corning has rendered me every assistance with his purse, and deserves as much credit for this noble spirit as the *best* of the noblemen in England. They know agriculture is the only support of the country. Directing members of this country, know equally well the benefit they render it by such praiseworthy transactions, and such are the *true* supporters of a prosperous and enterprising country. It is such men only, that can place America in the exalted station she ought to occupy. Wm. H. Sotham.

Hereford Hall, near Albany, Nov. 30, 1843.

IMPROVEMENTS ON MR. KETCHUM'S FARM,

AT WESTPORT, CONNECTICUT.

Letter to Solon Robinson *of Lake C. H., Indiana, from his friend* Richmond *of Staten Island, and State of New-York, containing an account of his visit to see the Improvements on the farm of Mr.* Morris Ketchum, *at Westport in Connecticut, in the month of September,* 1843.

Your last letter received through the Cultivator, (October number, 1843, p. 160,) was read with pleasure and regret; with pleasure, that you was alive and well, and had made me the medium of communicating further agricultural information, valuable to the farming interest; with regret, that you had been removed as Post Master when the situation enabled you to do so much for the country, without injury to the government or to individuals. Were I a Tyler man, I should remonstrate against an act so injurious to agriculture, and petition for a restoration.

In reply to your last, I shall now notice an agricultural visit recently made to a rocky part of Connecticut.

It is agreeable for farmers distant from each other, occasionally to interchange visits, compare notes, examine improvements, and observe the difference of cultivation caused by climate, soil and situation. Mr. Ketchum's visit to Oakland farm was reciprocated by me in Sept. 1843, when several days were spent very agreeably in partaking of the hospitalities of his family and leisurely walking over hill and dale, among rocks and water courses, along well cultivated fields of intervale, and among other things, admiring his beautiful stone walls, reclaimed peat bog, and his excellent stock of animals.

Westport is a large village, situate about 45 miles east of the city of New-York, or 55 north-east of Oakland farm on Staten Island, from whence I write. It is near the mouth of Saugatuck river, which empties into Long Island Sound, and once gave name to the village as well as the stream on which the village is situated, but the inhabitants, not pleased with this euphonious Indian name, caused it to be supplanted by Westport.

About a mile and a half north of Westport, lies the excellent farm of Mr. Ketchum, on which, within a few years, he has made extensive improvements, which struck me very forcibly, having previously been over the same ground in 1838. It is situated partly in the valley of the Saugatuck, and partly on the hills which skirt its eastern side, from which, and his house, is a delightful and picturesque view to the west, overlooking his whole farm and extending to the hills far beyond the valley.

The farm contains over two hundred acres, and is now productive in grass and grain, although some years ago when the owner was younger, he cultivated it without success, having at the end of the year, after unsparing toil and labor, made about money enough, as he used facetiously to say, "to buy a pair of boots." Then the farm was exhausted by cropping without manure, under the cultivation of previous occupants, and so it remained a number of years. Now, however, it is greatly altered, some of it is under high cultivation, and all more or less improved.

Mr. Ketchum's farm is divided into three parts by public roads. 1. That portion lying south of the old road leading from Saugatuck through Green's Farms to Greenfield, contains about 75 acres, and is very rocky. 2. A portion containing 35 acres on the north and westerly side is separated from the main body of the farm by the turnpike road from Westport to New Fairfield, and is part rolling and part level land, but all susceptible of cultivation. This is the poorest part of the farm, being of a stoney and gravelly soil, exhausted and not yet taken in hand by the owner, as it is the most remote from his residence and farm buildings. 3. The main body of the farm lies between the old road to Greenfield on its southerly side and the turnpike on its northerly side, while a cross road passes along its entire westerly front, making it a compact quadrangular body of land, containing more than a hundred acres, admirably situated for access to all its divisions from one field to the other, or from the three public roads which are always in good order.

This farm is in a primitive region. The rock of the hills is gneiss, but the plain land is a gravelly diluvion, as well as the surface of the hills where the base rock is covered. There are two small streams which water the farm, and are seldom known to be entirely dry. One has its origin in a small peat swamp in the second or remote section of the farm, and after crossing the turnpike, meanders through several acres of similar swamp, and waters several fields which are not swampy, and after leaving the farm, finds its way into the Saugatuck river. The other stream arises from springs at the base of the rock in the first section of the farm near the old road, and after running around the house and barn in the central part, wanders through the lawn in front of the dwelling: thence taking a course for several rods by the side of the road, again passes through a field in the central part of the farm, and joins the other stream a short distance before it leaves the possessions of Mr. Ketchum.

A large farm so situated, and near a large and thriving village from whence is a water communication to the New-York market, ought to be a highly valuable and productive one. But it should also have a wealthy owner, whose resources may be liberally applied to renovate and improve it. And such is its present proprietor, who is doing much to put it in a high state of cultivation, as well as in beautifying and ornamenting it. He commenced his improvements in 1838, and has been annually since adding thereto, though he has much yet to accomplish in bringing up some of his old fields; but this he will soon do, as he has found a mine upon his farm, which will enable him to put all his fields into good heart, as it has already a part of them. This mine is in the peat bogs.

Most of the improvements are on the central or main, and best part of the farm. In 1838, there was a small ancient farm-house and two small barns on the premises. That year he removed the old house and the barn, which stood near it, and erected on the same site a handsome, tasty wooden dwelling house, but not an extravagant one. At a proper distance was also erected a barn, 60 feet by 30, and a hay-house, 75 feet by 25, part of which was appropriated as a stable, carriage house, and corn-cribs. A little to the northward of his barn, was also built that year a snug two story frame house for his principal farmer and farm laborers. These improvements I saw progressing in 1838.

Since then he has converted a swamp in the rear of his house into a garden, by ditching, draining, and covering with soil. In front of the dwelling two fields have been thrown into a lawn of about ten acres, ornamented with fruit and forest trees of foreign and domestic growth, and with annual and perennial flowers and shrubbery. The stream which runs through the lawn is now confined by stone embankments, and prevented from overflowing as formerly, when a part of the lawn was an alder swamp, now converted into dry and arable land. A part of the lawn was a stony and gravelly bottom, with several out-croppings of the gneiss rock, around which have been planted groups of trees in vigorous growth, among which I observed some thrifty young yellow locust trees (Robinia pseudo-acacia) raised from the seed in 1838. The whole lawn, which at the time of my former visit was poor and unproductive, is now in good heart, and during the last season (1843) notwithstanding a severe drouth, produced two crops of grass. No expense, however, has been spared to convert a rough unsightly piece of ground into a beautiful and agreeable promenade, where, at my visit in September, it was delightful to see the children amusing themselves under the shade of the trees, climbing the rocky knolls, or romping and racing along the serpentine carriage road which runs through the lawn, and emerges into the pub lic road at the farther end.

But the greatest object of attraction to the farmer in viewing this lawn, is the enclosure on three sides of it, consisting of huge stone walls. On the northerly side is a wall the most beautiful I ever laid my eyes upon, put up without mortar. It is as straight as a die, smooth, fair, and gently battering on both sides, four and a half feet at the bottom, six feet above ground, and two and a half feet on top. The wall at the westerly end is not so high as the other, and is banked up on the lawn side. That on the southerly side is a curiosity. It runs along the public road some forty rods, and is built with huge rocks, and its outer face is straight and battering, though not so smooth and fair as the wall on the opposite side of the lawn. It has a base of six feet, is of the same height, and in addition thereto is capped with large rocks, with their rough ends overhanging the wall, like a coping, giving it an unique appearance. It is banked up on the inside, and you may walk on the rough coping, but it is not an agreeable place to promenade. From the outside it is impossible for man or beast to climb over.

If you should ask the reason of constructing such heavy stone walls, the answer would be, the abundance of rocks and stones, and the determination to dispose of them to the best advantage. You may easily imagine the original roughness of the land, when such walls were constructed of materials collected from a few surrounding acres.

But of all structures of the kind, there was one other on the first and most rocky section of the farm, that beats every thing I ever saw. It was a wall about forty rods in length, having a base of six feet, a height of six, and was six feet wide on the top. Most of the materials were huge rocks, and yet both sides of the wall were handsomely faced, and well put together, and what is remarkable, they were all taken from a portion of about three acres of the adjoining lot, now in arable condition, which it never was before.

These stone walls have been costly improvements, and it is due to Mr. Ketchum to say that he has done wonders. In the accomplishment of these undertakings, he employed a Mr. Burr Wood, whose skill and tact in handling rocks is superior to any man in the rocky regions of Connecticut. He moves his rocks, and builds his walls without a frame or line to work by, trusting alone to the accuracy of his eye; and these of which I have written, I examined with care, walking by them and over them, and they were found as straight and as smooth, and to have a batter as regular as if a line and bevel had been constantly used in their progress of erection.

Another improvement, however, has been made on the farm, of a more productive or profitable character. He has reclaimed a quaking peat bog of about six acres, and in 1843 cut two crops of grass from it. This bog, in 1838, was partially drained, and at that time a pole could be pressed down perpendicularly from ten to fifteen feet, in some parts of it. That year also, he had an ox mired in it, and the animal was so injured in getting him out, that he was ever after disabled from work. The bog is now so firm that a loaded team can be driven over any part of it. Its surface was formerly covered with tussacks of coarse bog grass, and patches of briars and wild roses. In August, 1838, its surface was burnt over with advantage, and many of the briars afterwards pulled up by the roots. But Mr. Ketchum found that it required more draining; and taking a hint from an agricultural speech of the Hon. D. Webster, after returning from Europe, about draining lands there, he made the application. Accordingly, he commenced ditching on the margin of the bog, and continued it all around, arresting the supply of water from the adjacent higher ground, and conveying it by the outlet which carried off the water of the ditches previously made. A year had not passed away before he found the surface dryer and firmer, and the old ditches mostly dry. He then pared the whole surface, carting away the bogs and roots, and piling them on the adjacent upland, where they were afterwards burnt, producing some two thousand bushels of ashes. In making the new ditches, and deeepening the old ones, several hundred loads of black peat were collected in heaps near the pared bogs. After exposure to the winter, the peat crumbled into a fine black mould, and it was then incorporated with lime and the ashes of the bogs, making a rich and valuable compost, containing humus made soluble by potash and lime.

The peat bog so denuded of its surface, nevertheless became dry and firm, and was seeded with timothy, (*Phleum pratense*,) and in September, 1843, I saw men cutting the second crop of grass that season. It is now a valuable meadow, and will continue so for a long time. The compost made with the peat and ashes and lime, was given as a top dressing to an adjoining field of clover, and it was then also fit to be cut a second time.

The expense of reclaiming this peat bog of a few acres, has been considerable; but the outlay has been more than repaid by the quantity of rich manure made by the operation, without calculating the conversion of a bog into arable land. Of this fact the proprietor feels perfectly satisfied. He has, this autumn, (1843,) sowed a field with wheat, manured with his peat compost, and he assures me, since my visit, that it promises well, judging from its rapid growth and fine appearance after coming up. Here then, we have wheat growing upon a soil which for many years past would not produce that grain, but would grow poor crops of rye, or oats, or buckwheat. The value of this improvement to Mr. Ketchum is not limited to the few acres reclaimed, or to the manure made. It has taught him how he can reclaim ten acres more of the same kind of land, which he has, and therefrom make an inexhaustible supply of manure for future application. This alone, is of the utmost importance in a part of the country where little or no manure is to be bought, and where scarcely an individual makes enough to feed his crops well.

Mr. Ketchum has also made improvements on those parts of his farm where there are no rocks, by good and substantial fences. Woodland in that part of the country, is scarce, and fencing timber dear. He has a long line of fence with red cedar posts, which I sent to him from Staten Island; and he showed me a quantity of sawed oak posts, imported from Chenango county in this state, which he had laid up in cross piles to season, and he intended to char the lower ends.

One of the disadvantages of this farm is the want of timber. The proprietor, however, has a tract of woodland, six or eight miles distant, in a region called the "*Devil's Den*," where even the most industrious Yankee cannot glean a living. It accordingly remains in its natural state of forest, which, when levelled by the axe, is left to grow again. It is a great curiosity to visit the *Den*, where it appears as if his Satanic Majesty had amused himself in breaking into fragments the gneiss rocks and heaping them in irregular and confused masses. Geologists would say that such appearances are caused by an upheaval. If upheavals are produced by central fires, as they admit, then the people of Connecticut are not far out of the way in attributing the reckless breaking, scattering, and piling of the fragments of rocks at the Devil's Den, to the agency of the Old Boy.

Appropos as to land destitute of timber. Would it not be advantageous to cultivate the yellow locust on your prairies, for shade, for ornament, and ultimately for fencing timber? Locust trees can be raised from the seed in a few years, and by soaking the seed in water heated to boiling, they will come up almost as soon as beans. I have done so both here and in New-York, and seen the same method practiced on Long Island. Red cedar also, (*Cupressus thyoides*,) might be valuable to you. If so, I can send you any quantity of the seeds, which are small and are here called cedar plums. The trees abound in my neighborhood, springing up spontaneously from the seeds, which pass through the alimentary canal of birds which feed upon them.

Mr. Ketchum's stock of cattle was not as large as his farm would warrant; but it was select and excellent, havsome full blooded Durhams, and crosses with the Devons. Among them he pointed out a young Durham cow, that gave a large pail of milk morning and evening, was a precocious animal of large growth, though only sixteen months old, and had a calf at fourteen months, having contracted too great an intimacy with a yearling bull, contrary to the wishes of its owner. In October, 1843, some portions of his fine stock were sent from the field, without any previous preparation, to the Agricultural Fair at Bridgeport, and obtained three several premiums, being allowed by good judges to have been among the best cattle in Connecticut, and the very best in Fairfield county, in which the farm is situated.

His stock of swine also, was not large; but the animals were of a superior breed, being full blood Berkshires, from the stock of C. N. Bement of Albany. He has a Neapolitan sow, which he has had crossed with the Bershire. This breed of hogs is said to be very fine and delicate. Coming from a warm climate and being without hair or bristles, it is questionable whether it can withstand our climate. I apprehend it will degenerate here, before it becomes acclimated, and then it will probably recover its external coating which nature has given to all animals in cold climates to keep them warm.

Westport, although a short distance east, and a little north of Staten Island, has a severer climate, and in consequence of early frosts the corn crop is sometimes injured, and hence the Dutton variety has been introduced on account of its early maturity. On Staten Island we raise the large white flint corn, which is seldom injured by autumnal frosts, although it requires three or four weeks longer to mature than the Dutton. This variety of corn does not thrive here, in our stiff clayey soil.

Enough for the present. With regard and esteem, from yours, RICHMOND.

Oakland Farm, Staten Island, Nov. 14, 1843.

EXPERIMENTS IN MANURING GRASS LANDS.

EDITORS OF THE CULTIVATOR—By recurring to page 164, of the 9th vol. of the Cultivator, you will find some experiments of mine on manuring grass lands. On the 5th of 6th mo. last, I staked two squares of exactly one square rod each, adjacent to the five mentioned as above, and numbered them 6 and 7; on No. 6, I sowed 1 lb. of dry sulphate of soda, and on No. 7, one quart of common salt. No. 1 to 5, inclusive, have had nothing applied to them since last year, and therefore present the *second* year's result of the manures then applied to them. The following is the result of their weights, taken immediately after cutting, on the 1th of 8th mo. last.

No. 1.	53¾ lbs.	No. 4.	54¼ lbs.
2.	61	5.	55¼
3.	53¼	6.	45½
No. 7.	47½ lbs.		

From this, it appears that notwithstanding the valuable effects of salt and sulphate of soda in England, when applied to grass lands, there was 8¼ *less* grass on the square manured with the sulphate of soda, and 6¼ lbs. *less* on the square manured with salt, than on No. 1, which had received no manure whatever; in other words, they injured the land by these amounts. No. 2, which was manured with ashes last year, you will perceive still shows a marked superiority over all the other manures. *Stockport, 11th mo.* 26, 1843. N. N. D.

LUCERN.

"LUCERN," says Nicholson, "makes the sweetest and most fattening food in the world for cattle;" and Drown says, "it is undoubtedly the most productive, and that which comes sooner into use [in the spring] than any other of the artificial grasses. From three to five tons of excellent hay can be cut to the acre; and with the best cultivation and plentiful manuring, nine tons per acre have been had in a season. It is supposed that our dry warm summers are more favorable to its growth than the cool and moist ones of Great Britain; and [Chancellor] Livingston has obtained greater products than those mentioned by British writers." The plants often last from eight to ten years.

Lucern requires two or more years before it attains its full growth; and therefore, as Loudon justly remarks, "it is ill adapted to enter into general rotations." For soiling, however, it is admirably adapted, as it may be cut at least four times in a season, "giving no taste to the milk and butter,"* and "one acre is sufficient for three or four cows."† I have seen it planted near Philadelphia, in rows or hills, and the intervals plowed twice a year. This culture greatly increased its vigor; but if it be sown broad-cast, and light harrows be used early in the spring, after the plants have become strong, treating them also with compost or poudrette, the crop could be more conveniently managed. In the former case, the sickle was employed; but the latter method would admit the introduction of the scythe.

"The soil for Lucerne," says Loudon, "must be dry, friable, and inclining to sand, with a subsoil not inferior [in quality.] Unless the soil be good and deep, it is in vain to attempt to cultivate lucern;" and yet I have a patch of several square rods, sowed broad-cast, in the spring of 1841, which is doing well. The seed was a present from M. B. Bateham, of Rochester; and as it had to be sown somewhere, I selected a loam, rather heavy, the best spot I could find that was mellow, though hardly dry enough for wheat. I have been, therefore, agreeably disappointed. It has resisted the frost well, which I scarcely expected, and far exceeds the adjoining clover in growth.

This experiment has satisfied me that farmers might find it very convenient and profitable to appropriate some half acre of land adjoining their stables or barn-yard. Throughout the whole summer, horses from the plow or from the road could be promptly provided for; and a bait for each milch cow, in the evenings and mornings, would be paid for in the pail. D. T

Greatfield, Cayuga Co., 12th mo. 16, 1843.

BOTTS' STRAW CUTTER.

MESSRS. GAYLORD & TUCKER:—My attention has been attracted to an article in the Dec. No. of the Cultivator, from your distinguished correspondent Mr. Bement, in which he has done me the honor to notice the straw cutter invented by me, and exhibited at the Agricultural Fair of New-York, in 1842. I am much obliged to Mr. Bement for the commendations he has bestowed upon the machine, considering the unfavorable circumstances under which it was exhibited; but in speaking of it, he uses an expression which I feel bound to notice, as it may lead to misapprehension on the part of some of your widely diffused readers. He says, "it appears to be a machine long sought for, viz. one that will cut hay, straw and *cornstalks*." Now, this machine was taken from Albany, *put in good order*, and exhibited a few weeks afterwards at the Fair of the Philadelphia Agricultural Society, and at the great Fair of the American Institute in New-York. At both places it bore away the palm from all competitors, and at the latter it received a silver medal on account of its superiority as a hay, straw, and *stalk* cutter. I believe it is the strongest, simplest, and most efficient straw cutter, and better adapted to the capacity and management of common operatives, than any other machine I have ever seen; and in this opinion I am supported by testimonials from hundreds of the most judicious farmers in Virginia and the southern country. But I have received several orders for this cutter from gentlemen in the south, because of its supposed adaptation to the cutting of cornstalks, and I have uniformly declined to send it under such circumstances, because I knew it was fitted for no such purpose. The truth is, the cornstalks of the north and south are very different things. You grow your corn very thick, and your stalks are hardly larger than your thumb, whilst ours are frequently as large as your wrist.

This knife, although intended for straw and hay, on account of its great strength, operates very well on our *tops*, (the part of the plant above the ear,) and *your stalks*. But I have never seen but one knife adapted to cutting the lower part of the stalk of the southern country, and that is one which I have lately gotten up for the express purpose, at the request of a gentleman, upon an entirely new principle, viz: that of cutting the stalk obliquely, by means of a powerful knife descending upon the layer of stalks so as to make a very obtuse angle with it.

This knife will also cut straw and hay, as well as stalks, but requires to be fed by hand, whilst the one first spoken of is much more rapid in its execution, and is furnished with a very perfect feeding apparatus.

The cutter recommended by Mr. Bement is sold at *thirty* dollars, the stalk cutter proper at *ten* dollars.

Richmond, Va., Dec. 15, 1843. C. T. BOTTS.

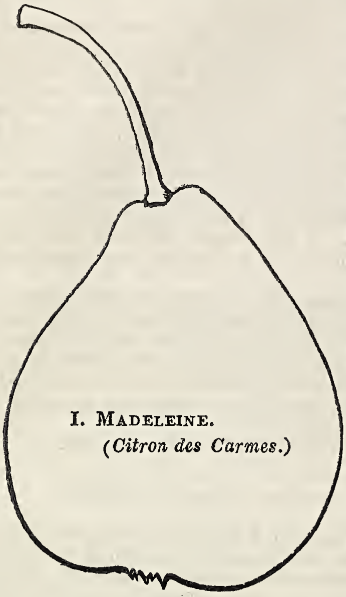
---

* Drown's Farmer's Guide.

† Loudon's Encyclopædia of Plants.

FIGURES AND DESCRIPTIONS

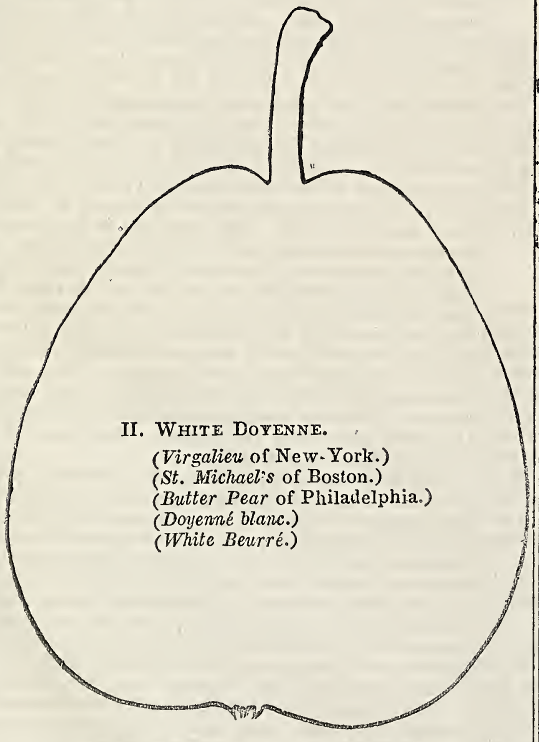
Of Five choice varieties of Pears, by A. J. DOWNING.



I. MADELEINE.
(*Citron des Carmes.*)

The Madeleine Pear is the best *very early* pear in cultivation; as, though inferior to the Bloodgood and Dearborn's seedling, its earlier maturity renders it very desirable in every collection. Its name arises from its ripening in France about the 22d July, which is the Fêté de Sainte Magdalene. It commences ripening here about the middle of July.

Fruit rather small, turbinate, narrowing gradually towards the stalk, where it thickens a little. *Stalk* from 1 to 1$\frac{3}{4}$ inches long, slender, a little curved, and rather obliquely inserted. *Eye* very slightly sunk. *Skin* pale green, becoming a little yellowish, with sometimes a faint blush when fully ripe. *Flesh* white, melting, with an abundance of sweet and rather vinous juice. A good bearer, but the fruit must be picked a few days in advance, and ripened in the house, or it is rather liable to rot at the core.



II. WHITE DOYENNE.
(*Virgalieu* of New-York.)
(*St. Michael's* of Boston.)
(*Butter Pear* of Philadelphia.)
(*Doyenné blanc.*)
(*White Beurré.*)

II. WHITE DOYENNE. This celebrated old fruit, known by so many names in various parts of the country, (and by at least twenty more in different portions of Europe,) is indisputably one of the finest of all pears. On the sea coast, or within the direct influence of the salt breezes, it often fails to produce good fruit; but in the interior, it is universally cultivated, and produces regular and most abundant crops of the most beautiful pears. Its fruit is largest and finest on strong loamy soils approaching clay. It ripens about the middle of September, and remains in perfection for four or five weeks.

Fruit above medium size, roundish oblong, narrowing most towards the stalk. *Color* pale yellow, dotted with a little russet, and often showing a fine blush on one side. *Stalk* ranging in length from three-fourths to one and a half inches, but generally about one inch long, rather strong and straight, curved a little at the point of junction with the tree, and inserted in a slight depression. *Calyx* very small, with closed segments, and set in a smooth, very shallow basin. *Flesh* white, fine grained, exceedingly melting, buttery, and delicious. If picked from the tree when it commences ripening, and carried to the fruit room, this pear may often be retained in fine perfection till the first of November, and taking into consideration its productiveness, beauty and fine flavor, it is scarcely surpassed by any of the newer varieties.

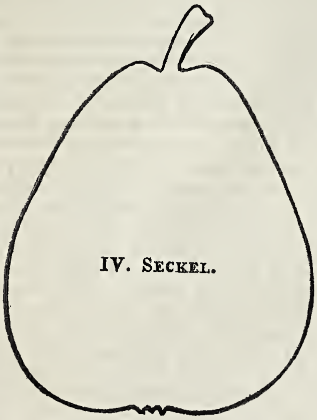
III. WINTER NELIS.
(*Bonne de Malines.*)

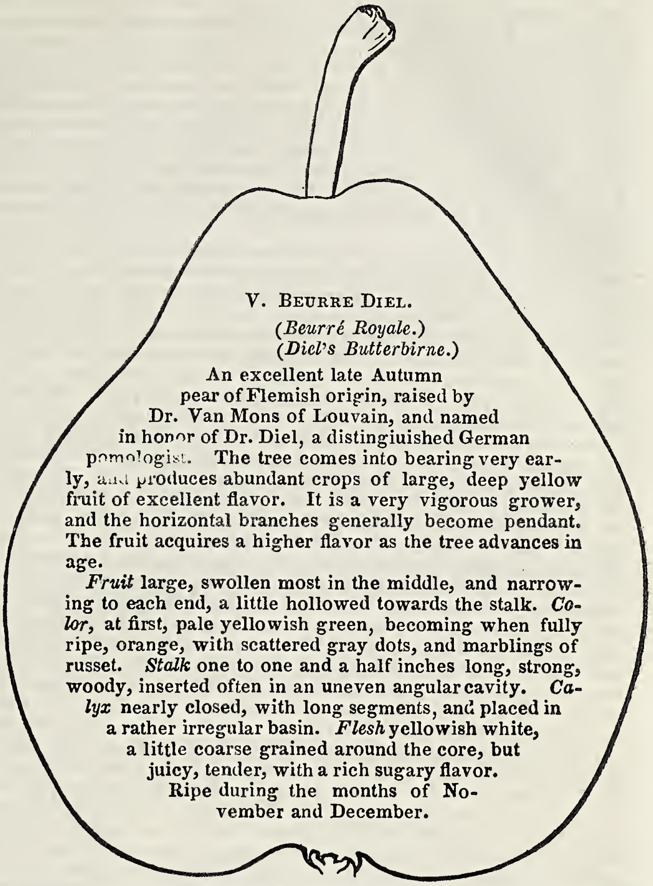
III. WINTER NELIS. The Winter Nelis, of delicious flavor, melting, and very juicy in the months of December and January, proves to be one of the finest dessert pears. It was raised by M. Nelis of Mechlin, succeeds admirably in our climate, and is not inferior to any other of the new Flemish winter pears.

Fruit of medium size, roundish obovate, narrowing with a slight hollow towards the stalk. *Color* yellowish green, pretty well covered with streaks of gray russet and russet dots. *Stalk* an inch and a half long, inserted in a narrow cavity. *Calyx* open, with firm short segments, and set in a shallow basin. *Flesh* yellowish, fine grained, buttery, melting, sugary and high flavored.

IV. SECKEL. This unique pear, the original tree of which, is, we believe, still growing on the farm of Mr. Seckel, near Philadelphia, is admitted to be the *highest flavored* pear known in either hemisphere, "possessing a high vinous aroma," says one of the highest European authorities, "which can scarcely be compared with any thing in fruits." It forms a very symmetrical bushy tree of rather compact but very healthy growth, producing its fruit in clusters, chiefly at the ends of the branches, and bearing very regularly and abundantly. No garden, however small, should be without this exquisitely flavored dessert fruit.

Fruit small, long obovate, a little compressed towards the stem. *Color* dull greenish brown, with a russet-red cheek. *Stalk* half to three-fourths of an inch long, rather obliquely inserted in a very slight depression. *Calyx* small, partly closed, placed nearly on a level with the surface. *Flesh* juicy, tender, melting, with a high and agreeable aroma, and a peculiarly spicy and rich flavor. It is in perfection from the first of September to the middle of October. To obtain fruit of large size, the trees of this variety should be well supplied with manure, and the branches moderately thinned by pruning.


IV. Seckel.


V. Beurre Diel.

(*Beurré Royale.*)

(*Diel's Butterbirne.*)

An excellent late Autumn pear of Flemish origin, raised by Dr. Van Mons of Louvain, and named in honor of Dr. Diel, a distingiuished German pomologist. The tree comes into bearing very early, and produces abundant crops of large, deep yellow fruit of excellent flavor. It is a very vigorous grower, and the horizontal branches generally become pendant. The fruit acquires a higher flavor as the tree advances in age.

Fruit large, swollen most in the middle, and narrowing to each end, a little hollowed towards the stalk. *Color,* at first, pale yellowish green, becoming when fully ripe, orange, with scattered gray dots, and marblings of russet. *Stalk* one to one and a half inches long, strong, woody, inserted often in an uneven angular cavity. *Calyx* nearly closed, with long segments, and placed in a rather irregular basin. *Flesh* yellowish white, a little coarse grained around the core, but juicy, tender, with a rich sugary flavor. Ripe during the months of November and December.

CULTURE OF FRUIT.—No. I.

We propose to furnish our readers occasionally with directions for the cultivation of fruit, embracing every thing of consequence from the apple to the strawberry; with the culture adapted to each, and a selection of the most desirable varieties, for those who have but little land, as well as for the farmer's orchard. We intend to furnish one number of the proposed series once in each month. To those who have large fruit gardens and orchards, every thing relating to their management, every thing by which their culture may be improved, must of course be a matter of importance; and to those whose whole farm perhaps consists of but half an acre, or even less, and there are many such among our subscribers, it certainly cannot but be an object of interest to make the best of that little. To such, it is indeed far preferable to have fine, well bearing trees, of excellent and seasonable varieties, than to have their limited grounds occupied by trees whose only product is small unpalatable fruit.

No one, however limited his means, or however little the land he occupies, should be deterred from the cultivation of *first rate fruit.* A tree of the best variety costs but little more than the worst—and will grow in the corner of a small yard, as well as on the richest domain. A dozen trees of the finest selection, will cost but three or four dollars, and may be properly transplanted for half that sum. In five years, if well taken care of, they will afford a return for the labor bestowed; and few would then be willing to part with them for five times their cost. The proprietor of the village garden, will find many pleasant hours of recreation in their management; and an agreeable and useful occupation will be furnished to his children. Indeed, the culture, propagation by budding and grafting, and a knowledge of the diseases of fruit trees, should be considered as an indispensable accomplishment in a young man's education.

The first thing to attend to in planting fruit trees, is the *selection of the ground.* This, it is true, is often in a great measure beyond our control; but still, even in a quarter of an acre, if there is any difference in the soil, there is some choice; as each kind may be more nearly furnished with its appropriate soil, than where no such attention is given. Whenever, therefore, a choice can be made, the *apple* should have ground which is rich and moderately moist; the *pear, cherry, apricot* and *peach,* a deep loose soil, more sandy for the cherry and peach; and the *quince* a rich moist soil. But if the ground be of tolerable fertility, much more depends on a proper preparation by *digging and filling the holes* than any selection.*

There is probably no natural soil in the state well adapted to the proper extension of the roots of fruit trees, without previous loosening by digging. We have seen peach trees transplanted into soil naturally loose, linger year after year with little growth; while on the other hand, trees set in a heavy soil, properly prepared, have made a growth the first shoots an inch and a quarter in diameter. In the former instance, the trees were put in holes barely large enough to receive the roots; in the latter, they were dug six or seven feet in diameter, and fifteen inches deep, filled chiefly with the loose soil thrown out. In the former the roots had to work their way through the undisturbed subsoil; in the latter they penetrated freely through the artificial bed of mellow earth. Much of the success in growth depends on digging very large holes, (at least 7 feet in diameter,) yet there is nothing we have found more difficult to induce others to practice.

---

* "For a Fruit Garden, a western aspect is generally best, because it is the least subject to sudden transitions of temperature. Severe vernal frosts often prove injurious, or otherwise, according to the weather that follows. If the sky be overcast in the morning, and the air continues cold, little or no damage occurs; but when the sun breaks out warm, the injury is greatest; and the most so, when the trees are most exposed to his rays. For this reason. a hill or a wood on the east side, may prove very beneficial.

"A northern aspect would go far towards insuring regular crops of the peach, nectarine, apricot, if protected from the sun and warm winds by a belt of evergreens. On sandy soils especially, the reflected heat is often sufficient in autumn or winter to *start* the buds; and snow and ice have been successfully heaped round trees to prevent this disaster; but a northern aspect would probably render such labor unnecessary.

"Dry firm ground should be chosen, preferring a sandy or gravelly loom, though clay will do with good culture. Wet, peaty, or spongy soils are apt to be frosty; for the radiation of the heat is much greater than from firmer lands."—*D. Thomas, in Trans. N. Y. State Ag. Society.*

The distance asunder, is a point which should be attended to in transplanting. It is desirable that no ground should be lost by too great distance; and not less so, that the trees be not crowded. It is much better however, that they be too far than too near; for the same evils result from close planting as from want of pruning—the fruit will be small and of inferior quality. But by allowing plenty of space, it will be properly exposed to sun and air, and become fine and well grown. Another advantage in distance is, that it admits more freely of the cultivation of the ground for other crops. Different species of fruit require different distances, according to their respective size of growth. As a general rule, apple trees should never be nearer than 25 or 30 ft., but better if further—pears 15 or 20 ft.—peaches not less than 20 ft.—apricots 15 ft.—plums 12 or 15, and quinces 10 ft. Different *varieties* of the same species often vary considerably in size; thus the Bough apple and Tallman sweeting are small trees, and the Spitzenburg and Pennock are large—the early white Nutmeg and early Ann peach are small, while the Early York and Grosse Mignonne are more than twice their size. But this in general need not be taken into account, as mere varieties do not commonly differ greatly in size.

Guarding from the attack of the *Curculio*, is another important requisite. This insect rarely touches other than smooth *stone* fruit. The nectarine, apricot, and plum, are most liable to injury; but the cherry, and the earlier varieties of the peach frequently suffer from its attack. It is most effectually destroyed, if hogs are allowed to feed under the trees during the season the punctured fruit falls; for as this immature fruit contains the larvæ or worm for next year's insect, it is eaten and destroyed by the swine. Hence all smooth stone fruit should be placed in a separate part of the fruit garden, to be enclosed by a temporary fence, for confining the necessary number of hogs. Poultry, and especially geese, will accomplish in some degree the same end.

An important point in selecting varieties, is to furnish a *regular succession in ripening*. The whole value of some kinds of fruit, depends almost entirely on their *time* of ripening. Thus, if the cherry matured its fruit with the peach, it would be but little esteemed. The importance of early varieties of the best species is therefore obvious. A proper selection will yield a constant supply of some kind of fruit throughout the year. Strawberries may be had from the latter part of the fifth month (May,) till winter.* Raspberries for six weeks preceding wheat harvest. Cherries, from early in sixth month (June,) till the same. Apricots and plums commence ripening a little before harvest, the former continuing for a few weeks, the latter three months. Peaches may be obtained from wheat harvest till autumnal frosts. Pears and apples will furnish a supply from harvest till the season of strawberries and cherries the following summer. Selections, as complete as practicable, of varieties for succession, will be given hereafter, when we come to speak of the various kinds individually.

Transplanting properly, is a point of the very first importance. When the trees are taken up, care should be taken that the roots are mutilated as little as possible, especially the small fibrous roots which contain the feeding mouths or spongioles. If large trees are to be removed, they should have all the larger roots cut off at a convenient distance from the center, the previous year, so that a new set of fibrous roots may be thrown out near the tree. Great care should be taken that the roots never become dry; to prevent this they should always be immersed in mud as soon as dug up, and then dusted with sand or dry powdered earth. Should they accidentally become too dry, cover the roots and most of the tree well in moist earth, till the moisture is restored; or should they be frozen, burying the roots before they can thaw, will save them by gradually extracting the frost. The holes in which they are to be set, should never be less than seven feet in diameter, and fifteen inches deep; turf inverted, or muck, should be placed in the bottom, and finely pulverized rich mold, but never manure, should be well shaken in among the roots, so that they may be well packed on all sides, leaving no cavities. A pail of water thrown in before the hole is quite filled, has been found highly beneficial in settling the earth well about the roots, and should never be omitted. Less fertile earth, may be filled in most remotely from the tree. After the tree is set, which should incline a little to the southwest to protect the stem from the hot sun, it should be braced with one or more stakes inclining towards it, and secured by tying. Or only one stake may be driven close to the tree, before the hole is filled.

Transplanting in *autumn*, is generally preferable. When trees are to be transported to a distance, there is not sufficient time in spring; and when the distance is small, if they are removed early in autumn, while yet in a slowly growing state, the spongioles which may have been broken off, will be replaced before the growth ceases. The only case in which fruit trees should not be transplanted in autumn, is where the more tender kinds, such as apricots and peaches, are taken to a colder region of country, in which instance there would be a danger of their destruction by the frost of winter.

The *subsequent management*, consists chiefly in keeping the ground well cultivated, and free from weeds. This may be effected in large orchards, by plowing and planting low crops; in small gardens by spading once a month, for several feet on each side of the tree. This is of the greatest consequence; nine-tenths of the losses of transplanted trees in many parts of the country, arise from neglected after-culture, and the destructive influence of contiguous shading crops, weeds and grass. And even where the trees live, a miserable stunted existence, instead of a healthy, vigorous, and free growth, is the result of such careless treatment. Sown crops of grain are highly detrimental.

To prevent trees being *gnawed by mice*, tread the snow repeatedly round them. This is an effectual remedy, and should not be neglected, as the labor is small in comparison with the loss of fine trees. Clean culture will promote the same end, by destroying the hiding places of these animals.

Insects upon the trunk, may be destroyed by whitewashing, or by washing with soft soap or weak lye.

Before closing our remarks for the present, we wish again to urge the importance of proper transplanting and culture. Many suppose that a period of fifteen or twenty years must elapse before an orchard is in a good bearing state. This opinion results from the general practice of digging small holes, and neglected after-culture. Proper management would bring most fruit trees in good bearing condition, in five or six years at farthest. Indeed, so much depends on previously preparing a broad deep bed of loose soil, that for obtaining a *speedy* growth of ornamental trees on a plantation, Loudon, (whose authority is first among the first,) greatly prefers a proper preparation of ground and planting *young* trees, to Sir Henry Stewart's celebrated method of setting out at once, *large* trees for this purpose.

The best methods, and essential requisites, for successful budding and grafting, pruning, and the remedies for the diseases and injuries of insects, will be treated of hereafter. J. J. T.

Macedon, Wayne co., N. Y.

FATAL EXPERIMENT.

Our friend, D. Tomlinson of Schenectady, informs us that two of his neighbors having seen some publication recommending oil to kill caterpillars on fruit trees, applied oil to destroy worms on plum trees last spring, and all those trees died from the oil.

---

* We have seen a dish of them picked the first day of winter.

FOREIGN INTELLIGENCE.

We have received our files of the Mark Lane Express, Farmer's Journal, to Dec. 4, and only *sixteen days* from that date, are quietly reading them at our desk!

The weather, during the month of November, had been generally fine, and the seeding of the wheat crop had been finished under favorable circumstances.

We are indebted to Mr. Geo. W. Atwood, of London, for a copy of his commercial circular of the date of Dec. 2, 1843. In regard to business generally, the circular says:

"I am pleased to notice a general improvement in trade throughout the whole kingdom, and a gradual recovery from its long depressed state, with a prospect for its continuance, and that the consumption of many articles of produce is greatly increased."

Speaking of the preparation of American provisions for the English market, the circular says:

"Any thing that is done in provisions for the English market must be done *nicely;* too much care cannot be taken. Low prices, also, must be looked for; and unless it can be well done here, at a low figure, it cannot be advised."

AYRSHIRE CATTLE IN GERMANY.

The Journal of the Royal Agricultural Society of England, contains an account of a meeting of the Germae Land-owners, at Doberan, in 1841, from which it appears that an Association of Farmers and Land-owners had introduced into Germany the Ayrshire breed of cattle, and at this meeting the merits of this breed for *dairy* properties, compared with the German breeds, was considerably discussed. The results of such experiments as have been made, show the superiority of the Ayrshires. Baron Malzahn Sommerstoeff, stated that in the year 1837 he went into Scotland on the part of an Association in Pomerania, and bought 185 Ayrshire cows—and that he had found no breed that gave so much milk upon moderate food, as the Ayrshires. "Mr. Stanginer said that he had put two Ayrshire cows, and two of his own cows, (supposed to be from Angeln,) in a grassy paddock. The two Ayrshires gave 32½ pots per day, the two others, 29 pots. The Ayrshires were the hardiest, but their milk was not richer."

DISEASE AMONG CATTLE.

The Mark Lane Express says, that a new and most violent epidemic has broken out in the counties of Cumberland and Westmoreland. The disease is an inflammation of the heart, and the cattle die within eight hours from its commencement.

PRIZE BREEDS OF SWINE IN ENGLAND.

At the last exhibition of the Royal Ag. Society, the Berkshire and Lincolnshire breeds obtained the highest prizes for hogs of a "large breed;" and the Improved Essex and Suffolk, took the highest prizes for "small breeds."

PREVENTION OF SMUT IN WHEAT.

At a late agricultural meeting in Sussex, Eng., John Ellman, Esq., related the following account of an experiment in preventing smut in wheat. He took four sacks of smutty wheat, sowed one sack of it with brine only, as strong as he always made it, to bear an egg as large as a shilling; he sowed another with lime only; be sowed the third sack with brine, strong enough to bear an egg, and then let it lay in lime all night; and the fourth he sowed without any thing. The result was as follows: Where the brine only was used, every now and then there was a smutty ear, still not many; where the lime only was used, there was much about the same quantity of smut; where the lime and brine was used, there could not be found a single smutty ear; and where nothing was used it was a mass of smut.

PROPER POINTS OF SHEEP.

A writer on Sheep-breeding, in the London Farmers' Journal, gives the following as the points of a good sheep:

"The head short, and without an angle or hollow; a tape passed from the throat round behind the ears, shall about equal a like girth from throat over the eyes and forehead; a quiet, but confident aquiline visage; ears woolly, short, well back and bent down, not rabbit fashioned; the neck not straight lined from the rump, but set on at the shoulders, at about a forty-five upward angle; not tapering over delicately towards the head, but thick, full, and fleshy along its whole length. Blade-bones well spread, far back, and showing the chine above their working, which will produce a large, open, and heavy breast, not pitched downwards, as in the grey-hound, but rounded up to a frontage, like the fore keel of a ship. This enables the sheep to look you well in the face, and gives it a presence as if standing up hill, from whatever aspect it may be viewed. Capacious loin, spread-out hips, and well connected rumps, wide and fleshy in the twist, legs short, light boned, and under the sheep, not stuck out like four props to a hay-rick, and a well woolled belly."

Great preparations were being made for the annual Show of Fat Cattle, &c., at the Smithfield market, which was to take place in a few days.

PRINCE'S LINNÆAN BOTANIC GARDEN & NURSERIES,

FLUSHING, LONG-ISLAND, NEAR NEW-YORK.

PRINCE'S New Descriptive CATALOGUES *of the Linnæan Botanic Garden and Nurseries, at* FLUSHING, with very reduced prices, will be sent *gratis* to every *postpaid* applicant, and orders per mail will receive prompt attention. They comprise as follows, and the cost of publication was above $100:

No. 1, Descriptive Catalogue of Fruit Trees, Shrubs, and Plants.
" 2, Hardy Ornamental Trees, Shrubs, and Plants
" 3. Bulbous Flower Roots and Dahlias.
" 4. Green-House Shrubs and Plants.
" 5. American Indigenous Trees and Plants.
" 6. Garden, Agricultural, and Flower Seeds.
" 7. do do. in French.
" 8. Wholesale Catalogue for Nurseries only.
" 9. Catalogue of Roses, comprising above 600 varieties of every class. WM. R. PRINCE & CO.

Flushing, Dec. 6, 1843. 2t.

ENGRAVING.

N. ORR, having established himself in the above business, is now prepared to execute all orders with which he may be favored, and respectfully solicits a share of patronage.

Portraits of Animals, Architectural Plans, Views of Buildings, New Inventions, Patent Machines, &c. &c. executed at a moderate compensation and with undeviating punctuality.

☞ Office, No. 4, third floor, Exchange, Albany. January 1, 1843.

TO FARMERS.

THE subscriber is prepared to furnish farmers with Stone and Shell Lime, either slaked or unslaked, at a rate which will make it an object for them to use it liberally in the improvement of their lands, for which purpose he has sold large quantities during the past year. He refers to John Townsend, C. N. Bement, and W. H. Sotham, Esqr's. who have used his lime extensively. E. C. WARNER,

Albany, Dec. 1, 1843.—3t.* *Corner Market and Nucella-sts.*

POUDRETTE

OF the very best quality for sale. Three barrels for $5, or ten barrels for $15—delivered free of cartage by the New-York Poudrette Company, 23 Chambers street, New-York. ORDERS by mail, with the cash, will be promptly delivered, and with the same care as though the purchaser was present, if addressed as above to D. K. MINOR,

Dec. 1, 1843.—3t. *Agent.*

LINNÆAN BOTANIC GARDEN AND NURSERY,

Late Prince's, Flushing, L. I., near New-York.

THE new Descriptive Catalogue, not only of Fruit, but also of Ornamental Trees, Shrubs, and Plants, cultivated and for sale at this ancient and celebrated Nursery, (known as PRINCE'S, and by the above title for nearly fifty years,) with directions for their culture, may be had gratis on application to the New Proprietors by mail, post paid.

The collection at this establishment is unrivalled, and prices generally very much reduced; and the proprietors flatter themselves that the Catalogue will be found to surpass in extent of information and usefulness, any thing of the kind ever before presented to the public; and to be worthy of a permanent place in the library of the Horticulturist. Orders will be promptly executed. WINTER & CO.,

Flushing, Nov. 13, 1843.—2t. *Proprietor.*

CONTENTS OF THIS NUMBER.

Address to Patrons of Cultivator, 9.
Agricultural Warehouses—In Boston, 19.
Agriculture—Negligence and errors in, 27.
Bees—Care of, by J. M. Harlan, 21.
Buildings—Dr. Lockwood's Cottage, described by T. M. Niven, 24
Butter—To make in winter, 22.
Cattle—Mr. Mason's Premium Cow, 10—Mr. Vail's Short Horns, 17—Dairy Cows, 11—Remarks on Wintering, 21—Cure for Black Leg, 24—Herefords, their Dairy Properties, &c. by W. H. Sotham, 32—Mr. Ketchum's, 34—Remedy for hard milking Cows, 14.
Cutting Fodder—Necessity for, with results of experiments, 18.
Clover Seed Machines, 12.
Cotton—Improved culture of, by Dr. Cloud, 28—Mr. Affleck's proposition, 12.
Corn Sheller—Goldsborough's, 15.
Cookery—To make biscuit, 22—To cook a bullock's heart, bacon and cabbage, tripe and souse, 23.
Fuel—Comparative value of green and dry wood for, 21.
Farms—Mr. Capron's premium, 14—Description of Mr. Ketchum's, Westport, Ct. 33.
Fruit—On the culture of, by J. J. Thomas, 37, 38.
Foreign Intelligence, 39.
Harrow—Drawing and description of Mr. Geddes', 16.
Horses—Rearing Colts, 10—Blind Teeth in, 23.
Indian Corn—Smut on, 15—Valuable varieties of, 13, 19—Sown Broadcast, 21—Calico, 11—Large crop, 11.
Lucern—Culture of, by D. Thomas, 35.
Massachusetts—Improved Agriculture of, 18.
Manures—Coal Ashes, 15—Plaster, 15—Muck used in Mass., 19—Experiment with Green, by J. T. Worthington, 26—Bommer's, 31—Compost made by Mr. Ketchum, 33—Experiment in manuring Grass Lands, 35—Buckwheat plowed in, 12.
Maple Sugar—Apparatus for boiling, and directions for manufacturing, 22.
Monthly Notices, Acknowledgments, &c. 10, 11.
New-York State Ag. Society, 13.
Nut Grass—Description of, 27.
Oil—Injurious to Plum trees, 38.
Orchards—Clover not injurious to, 15.
Potatoes—To raise from Seed, 10—Disease in, 10, 20—Proper time for digging, 15.
Poultry—Profits of hens, 12—Nest eggs, 22—Dorkings, and Hatching Chickens by steam, 11—Caponizing, 12.
Pears—Figures and description of five varieties, by A. J. Downing, 36, 37.
Swine—Best food for fattening, 14—Large Berkshires, 15—Remedy for Barren Sows, 23—Large, 11, 13—Rapid fatting, 12.
Sugar Cane—Culture of, 13.
Straw Cutter—Mr. Bott's, by C. T. Botts, 35.
Sheep—Paular Merinoes, by H. S. Randall, 25—Going West, 18.
Silk Culture—Progress of, by A. Walsh, 14—Silk Goods in Ohio, 17—Factory at Richmond, Ia. 21—Length of Silk worm's Thread, 24—In Chautauque county, 26.
Tobacco—Information wanted on its Culture, 24.
Things important to be attended to, 20.
Young Men—Hints to, 20.

ILLUSTRATIONS.

Mr. Geddes' Harrow, ······ 16
Goldsborough's corn sheller 15
Mr. Vail's Bull, ············ 17
Dr. Lockwood's Cottage, ··· 24
Paular Merino Buck, ······ 25
Cotton Plant, ·············· 28
Pears, ················· 36, 37
Sugar Boiling, ············ 22

☞ ADVERTISEMENTS inserted in this paper, at $1.00 per square of 12 lines for each insertion—100 words make a square.

SUBSOIL PLOW.

THE prices of the Subsoil Plow described on another page of this paper, are as follows, viz: No. 1, $8—No. 2, $10—No. 3, $12, with extra points. These plows may be obtained at 176 Market st., Philadelphia, of D. O. PROUTY.

WILLIAM HOVEY'S SPIRAL REVOLVING HAY CUTTER.

THESE celebrated machines for cutting all kinds of fodder for cattle and horses, such as hay, straw, corn stalks, &c., are made and sold by the subscriber, at Worcester, Mass. Also sold by Ruggles, Nourse & Mason, at the Boston Agricultural Ware House, and by several of the dealers in the city of New-York.

Retail prices of machine, with 6 knives on cylinder, $15
do do 6 larger balance wheel, 20
do do 8 do geered, 25
To cut two lengths do 2 inches long, 16 knives, splendid, 30

These knives are so constructed, that by turning 2 or 3 screws a little, each knife can be taken off from the cylinder separately, and in case of failure, new ones can be put on or ground and replaced without disturbing the other knives; and by means of 2 set screws under the inner edge of each knife, the edges of the knives can be adjusted by those set screws so as to come in equal contact with the hide roller, as they revolve in connection. This arrangement of adjusting the knives on the cylinder, is considered of vast importance to the usefulness of those machines, and belongs exclusively to the subscriber. For further information on the subject, the subscriber would refer to a communication in the December No. of this paper, by Caleb N. Bement, Esq. Albany. WILLIAM HOVEY.

Worcester, Nov 27th, 1843

COFFEE AND SPICE FACTORY.

ELIJAH WITHINGTON'S Coffee and Spice Factory, No. 7 Dutch Street, between John and Fulton street, New-York. E. W. manufactures and has constantly on hand and for sale, the following articles, viz:

Green Coffee, Roasted Coffee, Ground Coffee, Domestic Coffee, Prepared Cocoa, Mustard, Whole Nutmegs, Ground Cloves, Ground Cinnamon, Ground Pepper, Ground Alspice, Ground Ginger, Ground Cayenne, Ground Nutmegs.

☞ Coffee roasted and ground for Grocers. Roasting 50 cts. per hundred. Grinding, 50 cts. per hundred.

The above named goods are sold on the most reasonable terms, and delivered to any part of the city or Brooklyn, free of expense.

N. B. Cash paid for Mustard Seed.

Dec. 1. 1843.—3*t*.

A BOOK FOR FARMERS,

MERCHANTS, Mechanics, Statesmen, Politicians, Lawyers, and the general reader. One of the most valuable works that has ever been issued from the American press, viz: *Webster's Speeches*, arguments in Court and Senate, Orations, remarks in Conventions and Senate, Reports, addresses before Agricultural Societies, Lectures, etc., by Daniel Webster—8th edition, 3 vols., 8 vo., cloth, with a portrait; also in Philadelphia Library style of binding, sheep. These volumes contain the ablest productions of Mr. Webster, up to the time of his becoming a member of the Cabinet. His speeches are models of argumentative power and commanding eloquence. They are rich sources of instruction also to the student of letters, of history, of finance, of the theory of government, and to the active politician, and should be owned by men of every station, sect, and political denomination. Published and for sale by TAPPAN & DENNET, 114 Washington st., Boston, and for sale by the principal booksellers throughout the country.

T. & D. also publish *Life of George Washington.* By Jared Sparks, 1 vol. 8 vo—600 pages, with 14 fine steel and copperplate engravings, beautifully bound in rich cloth, stamped.

The *Life of Washington*, abridged, 2 vols. 12 mo. cloth. By Jared Sparks.

The *Works of Benjamin Franklin*, with notes, and a life of the author. In 10 vols. 8 vo. cloth and calf bindings. By Jared Sparks.

Life and Writings of George Washington, by Jared Sparks, 12 vols. 8 vo. cloth and calf bindings. *Nov.* 1.—3t.

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to J. OAKLEY,

Oct. 1.—tf. No. 75 Nassau street, New-York.

AGRICULTURAL PAPERS.

THE CULTIVATOR.—A new series of this well known and popular paper, was commenced on the 1st of January, 1844. The sheet was enlarged, and the form changed from a quarto to an octavo—each number containing 32 pages, instead of 16, as heretofore. Each succeeding volume (of which ten have now been completed,) of this work, has been received with increasing favor by the public. In its able correspondence, both at home and abroad—in its illustrations and mechanical execution, and the extent of its circulation, it is without a rival. No efforts will be spared to render the volume for 1844, superior to any that have preceded it. Price, $1,00 a year—Seven copies for $5,00—Fifteen copies for $10.

THE FARMER'S MUSEUM.—The proprietor of the Cultivator commenced the publication of a new Agricultural paper with this title, on the 1st of January, 1844. It is one-half the size of the Cultivator, and is printed and illustrated in the same neat and tasteful manner. Price, *Fifty Cents* a year for a single copy—*Fourteen* copies for $5—*Thirty* copies for $10.

⁂ Subscriptions for the above papers received by Postmasters throughout the country, and the Friends of Agricultural improvement generally are respectfully requested to act as Agents. Specimen numbers and Subscription papers will be sent to any person disposed to act as Agent.

⁂ All orders for the above papers must be accompanied with advance payments, and be addressed to

LUTHER TUCKER, Publisher,
Albany, N. Y.

Editors with whom we exchange will confer a favor by giving the above one or two insertions.

FROM THE STEAM PRESS OF C. VAN BENTHUYSEN & CO.

THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

Vol. I. ALBANY, FEBRUARY, 1844. No. 2.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

WILLIS GAYLORD AND LUTHER TUCKER, EDITORS.

ONE DOLLAR A YEAR.

Seven copies for $5,00—Fifteen copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "The Cultivator," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE FARMER'S MUSEUM,

(*Each no. containing* 16 *pages*,)

Is made up of selections from this paper, and published monthly at 50 cents a year—Fourteen copies for $5,00—Thirty copies for $10.

THE CULTIVATOR.

MONTHLY NOTICES.

Communications have been received since our last from R. A. Avery, An Enquirer, (whose letter cost us 56¼ cents) J. S. S., A Virginia Farmer, P. Peterson, S., M., Quercus, S. C. Smith, George Geddes, J. M. Ellis, Georgian, J. Crawford, Edgar, (this as well as his previous communication was written with a pencil, and will cost us too much labor to decypher it,) A Practical Farmer, L. A. Morrell, M. Bingham, A Friend to Farmers, S. Weller, N. N. D., Geo. Bement, S. Peck, C. Colfelt, N. Loomis, S. Tillotson, F. J. Betts, N. Clean, J. Smith, A. McDonald, W. A. Dunlap, W. McKinster, S. W. Jewett, G. A. Mason, W. H. Sotham, A Cayuga Farmer, R., A Subscriber, N. W. C., L. Physick, J. S., Peregrinator, Richard Cowles, H. A. P., F. Rotch.

We are indebted to Joseph Breck, Esq., Ed. N. E. Farmer, for copies of Dr. Dana's Prize Essay on Manures, and Mr. Foote's Prize Essay on the same subject —to Lt. Gov. Dickinson for a copy of his Address before the Queens Co. Agricultural Society—to Dr. Lee for his Address before the Erie Co. Ag. Society—to C. P. Holcomb, Esq. Devondale Farm, Wilmington, and to some unknown friend, for copies of the Transactions of the Newcastle Ag. Society for 1843—to A. Randall, Esq. for the Western Farmer's and Gardener's Almanac for 1844.

CHANGE IN THE FORM OF THE CULTIVATOR.

A correspondent says:—I see no objection in the change of form, except that you cheat us a little in quantity by the increased amount of margin." In this, however, he is *mistaken*. The sheet has been *enlarged*, as he will see by comparing it with a former number, so that we give just the same amount of reading now that we did in the quarto form.

STATE AGRICULTURAL SOCIETY.

The annual meeting of the New-York State Agricultural Society, which took place in this city on the 17th inst., was well attended, and a good degree of interest was manifested in promoting the objects of the society. A brief account of the doings, will be found in another part of our paper.

THE ANNUAL CATTLE-SHOW AND FAIR.

It will be seen that Poughkeepsie is selected for the next Fair of the New-York State Agricultural Society; and the 18th and 19th of September are designated for the purpose.

☞ The Premium-List, which will be found in another part of this paper, is published thus early in the year, that further time may be given than has hitherto been allowed for preparation. This winter season, with its stormy weather and long evenings, furnishes abundant opportunities to farmers for examining the List, and making timely preparations for the stock or other articles which it is in their power to exhibit in competition at the Fair. The facilities of reaching Poughkeepsie by steamboats will render the transit of cattle and horses easier to a large section of country where many of the finest animals may be found; and the same facilities will enable visitors to arrive and depart more conveniently, and be better furnished with accommodations than could well have been the case hitherto. We mistake the spirit of the Poughkeepsie people if they fail in making early and adequate arrangements for the multitudes that will throng their town on the occasion.

EXPERIMENT WITH POTATOES.

Mr. Charles Colfelt of Mifflin co. Pa., informs us that he raised last season, 90 bushels potatoes on a quarter of an acre of land, and he thinks he should have had 125 bushels if the season had been favorable. He planted the potatoes on the 8th of May, in rows 3 feet apart. After they came up, he hauled out 8 cart loads of barn manure about half rotted, and spread over the tops on the rows—then run a one-horse plow on each side of the rows, to throw the manure over the potatoes and cover the manure with earth. Harvested in November. The same man also raised 120 bushels of potatoes on a "third of an acre" of land, which had been previously planted to corn and was destroyed by "cut worms." He put on 8 four-horse loads of long manure, spread it, furrowed the ground 3 feet apart, dropped the potatoes and covered them with the plow.

RESULTS OF SUBSOIL PLOWING.

Mr. C. N. Bement states that a few years ago, he subsoiled part of a piece of ground which he planted to Indian corn. The piece was on a light, loamy or sandy knoll, and he subsoiled it in "strips," leaving alternate strips not subsoiled, all being manured alike. He ran the *subsoiler* about eight to ten inches deep. The season proved very dry, and where the subsoil plow was *not* used, the corn was so burnt up that it produced little or nothing; but where the subsoil plow was used, the corn remained green and flourishing through all the drouth—the strips were plainly seen at a distance, and the subsoiled part produced a good crop.

Mr. B. made a similar experiment on carrots, and the results were even more strikingly in favor of subsoiling than in the case first cited.

MR. COLMAN'S TOUR.

OUR readers will regret to learn that the publication of the first part of Mr. Colman's European Tour, has been delayed by an accident which befel him, and from which he came near losing his life. While visiting a farm near London, early in December, on horseback, he was thrown from his horse and so severely injured as to unfit him for mental or physical exertion for a considerable period. At the last dates, he had nearly recovered, and hoped to be able to prepare his first part for publication in the course of the present month.

COTTON IN NORTH CAROLINA.

WE are informed that Col. Thos. Ousley, near Halifax, N. C., has made an experiment on Doct. Cloud's method of cultivating cotton. He says "he is fully convinced that even here, (though not a cotton country,) our crops may be made to yield on an average *four fold*, compared with the usual method pursued here, which will amply repay the expense of manuring, as recommended by Dr. Cloud, and leave the land in good condition for a succeeding crop."

KILLING BRIERS.

MR. A. H. HALLECK informs us that the best way he is acquainted with to kill briers, is to cut them "in the old of the moon in August, and the sign in the heart—some few may grow the next year, but will present a feeble appearance, and with the aid of sheep may be easily exterminated." The *time* and manner of cutting briers above given, we know to be good from experience, but whether the *moon* has any special influence in the matter is another thing.

FARMER'S CLUBS.

WE have received from WM. MAKINSTER, a copy of the rules adopted by a Farmer's Club at Middletown, Ct. Mr. M. says the association has already produced considerable good. We have no doubt of it, and should be glad to see such clubs formed in every neighborhood. They are the very best means of eliciting knowledge on subjects connected with husbandry.

BIG BERKSHIRE.

Mr. ASAHEL FOOTE, of Williamstown, Berkshire co. Mass., slaughtered a Berkshire hog on the 9th of Jan., the dressed weight of which was 708½ lbs! He was 2 years and 8 months old, and had been fattening only from the 10th of June last, at which date he was estimated to weigh 300 lbs. His fare for the first three months was whey with a little corn in the ear occasionally—during the last 4 months was Indian meal, as much as he would eat—or about 6 quarts per day. His rough fat was eighty pounds—that of his hams, pared unusually close, 52 lbs. each. Thickness of the heaviest of the clear pork was full 10 inches. Leaf lard, 80 lbs.

INQUIRY—APPLES.

A friend asks whether any information can be given in regard to a defect in apples called at the south the *ague*—"consisting apparently in a collection of watery matter under the skin—though that part is harder than the remaining part of the fruit." He says the disease in his "orchard has been confined to the *Pound Sweeting*." We have always supposed that this defect belonged only to certain kinds. And did not extend to varieties in general. We have seen it more frequently in *sweet* apples.

CORRECTIONS.

In the notice of Burrall's Clover Machine, last month, p. 12, for "two to six *hands*," read "two to six *horses*." Same No. p. 11, in the notice of Mr. Brush's premium crop of corn, it is stated that he raised 405 bushels on three acres. We are informed that it was 405 bushels of *ears* of corn.

AGRICULTURAL SURVEY OF NEW-YORK.

WE state, in answer to the Goshen Standard, that Prof. EMMONS has been engaged during the past season in making a collection of soils in different parts of the state, which he is now engaged in arranging and analysing. His object, if we understand it aright, is to make a thorough examination and classification of the soils of the state.

MAINE FARMER.

THIS paper is hereafter to be published at *Augusta*, Me. instead of Winthrop. Dr. E. HOLMES, one of the most scientific men in the country, continues its editor, and Mr. EATON, well known as formerly one of the publishers of the Kennebec Journal, is proprietor and publisher. We have received the first no. of the new series—it is much improved in style and appearance, and we would say to all well wishers to the prosperity of the *down east* state, if you *don't* take the Maine Farmer, you make a *bad calculation*.

NORTH AMERICAN REVIEW. JANUARY.

THIS is a capital number of this excellent quarterly. Its articles are, Griswold's Poets and Poetry of America—Palfrey's Lectures on the Evidences of Christianity—The German Tariff League—Gervinus' History of German Poetry—Debts of the States—Prescott's Conquest of Mexico—Sam Slick in England, with a copious chapter of critical notices. The North American has reached its 122d no., and as a record of American literature is unrivaled. The subjects of the present issue are treated with great ability, and will be read with interest. If the N. A. R. could take the place of the trashy picture magazines in the hands of many readers, we doubt not the result in creating a more healthy tone in the public mind would soon be manifest. OTIS, BROADERS & Co. 120 Washington st., Boston, publishers.

MORSE'S CEREOGRAPHIC BIBLE ATLAS.

THE first no. of Mr. Morse's Bible Atlas has just been received, and has excited our surprise and admiration at the rapid advance he has made in that style of engraving, since his first specimens were before us only some two or three years since. This no. contains "Maps of the Countries mentioned in the Bible;" "Journeyings of the Israelites;" "Palestine from the latest authorities;" "Plan of Jerusalem;" and "The Environs of Jerusalem." The maps are large quarto, beautifully drawn and colored, and such as should be in possession of every reader of the inspired volume, Mr. Morse's Maps, or Atlasses, are furnished to the subscribers of his excellent paper, the Observer, we believe gratis, and are doubtless prized as they should be by its readers.

DURAND CORN.

WE shall be obliged to Mr. DURAND for a few ears of this corn, when he can send it by private conveyance.

ASPARAGUS.

MR. J. C. BARBER, Winstead, Ct., in a late letter to the Cultivator, says:—"Salt or brine will kill grass or weeds among asparagus, and be a benefit to the plant."

WESTERN FARMER AND GARDENER'S ALMANAC, for 1844: By A. RANDALL, Cincinnati. This is the best thing of the kind we have seen. It contains many interesting articles, with handsome illustrations, among which are twenty plans of houses—all "well got up."

AGRICULTURAL IMPROVEMENT.—Dr. LEE of Erie, we are happy to say, has been made Chairman of the Committee on Agriculture in the House. He is very desirous of effecting such legislation as will advance the cause of good husbandry in this state; and would be happy to receive any suggestions from the friends of agricultural improvement.

☞ The American Farmer copies without credit "*Proper Points of Sheep*," "*Ayrshire Cattle in Germany*" "*Disease among Cattle*," and "*Prize Breeds of Swine in England*," all of which we had taken some trouble to condense from our foreign papers.

DISEASED POTATOES.—Potatoes have been affected in some sections, the past year, by a disease which is by some supposed to be analagous to smut in wheat. "A Subscriber" from Monroe country, recommends that when potatoes which are thus affected, are planted, a compost should be applied to them to destroy the fungus. He says, "take salt, lime, and plaster, of each a bushel, and of ashes ten bushels—mix them together, and put a handful on each hill before covering. I would also put clear lime, and clear plaster on some hills. If any person raised potatoes last year that were not diseased, in the same section where others were so, it would be useful to describe the mode of cultivation."

VALUABLE COW.

P. H. Schenck, Esq. of Mattewan, Dutchess co., has given in the Am. Agriculturist, a statement of the milk and butter produced by a cow of his, during parts of the years 1842 and 1843. The cow is a polled cow, or hornless, and her color red and white. In 1842, Mr. S. kept her milk separate from that of his other cows for one week. She gave 18 quarts per day, and made 15 lbs. of butter. During this time she was kept on grass only. In 1843, Mr. S. had her milk kept separate from the 21st of May to the 10th of June, 21 days. She gave 16 quarts of milk per day, and this in the three weeks produced 65½ lbs. of butter. On the 15th of June, from 15½ quarts of milk, 3 lbs. 8 oz. of butter ready for the table, was made. This is certainly a most extraordinary yield of butter.

NEW ARTICLE OF FOOD FOR ANIMALS.

Mr. E. Rich of Troy, N. H., has communicated to the Keene Sentinel, the result of some experiments made by him on the value of the tops and roots of common Comfrey, (*Symphytum officinale,*) as food for cattle. Two cuttings in June and September, yielding six tons per acre of good fodder, and the root which should be harvested only once in two years, producing 2,400 bushels per acre. Experience showed both top and root to be very palatable and nutritious. Mr. Robinson, near Portsmouth, has also tried the plant for this purpose, and finds his stock of all descriptions to eat the tops when cut most greedily. His product was at the rate of eight tons per acre. This was on moist ground, which seems the best adapted to the growth of the plant. Mr. R.'s plants were in rows fifteen inches apart. This, we think, in rich ground would be too close planting. Comfrey is easily propagated by cutting the roots into sets, as is done with the potatoe. It may prove one of our most valuable plants for animals, but further experiments are necessary. They can easily be made.

TURNEPS AS A GREEN CROP FOR MANURE.

B. W. Cooper, a farmer of Camden, N. J., suggests in the Farm. Cab. the propriety of sowing turneps for enriching land. The suggestion is a good one, and would probably succeed. He says—"I have reason to believe that a crop of turneps when buried leaf and root, will be found superior to almost any other that can be obtained for the purpose of plowing in as a green crop for manuring." He recommends that a pound of seed, costing some 50 cents, be sown upon corn, which is of course when ripe, to be cut, and the turneps plowed under.

EFFECT OF GUANO ON CORN.

We find in the Boston papers, a notice of the Horticultural exhibitions in that city, at which some sweet corn was shown by Mr. Teschmacher of Boston, exhibiting in a striking manner the power of this celebrated manure on this plant. We perceive that a quantity has been imported at Baltimore, to give the farmers of that vicinity an opportunity of testing its remarkable qualities. It is sold at five cents per lb., and 100 lbs. is considered an ample supply for an acre. It can scarcely be doubted that science will yet furnish an artificial compound equal in value to this animal product, though the experiments hitherto made must be considered as partial failures. The Boston paper says—"A prominent object of attraction was the produce of two seeds of sweet corn, planted by J. E. Teshmacher, in the public garden, Charles st. on the 12th of May, in poor sandy soil. One without any manure, gave as product, one stalk and one ear, weight 1¼ lbs. The other manured with guano, gave as product, eight good ears, and four or five useless ones, weight 8 lbs. Only two spoonfulls of guano were used on this hill."

HEAVY PIGS.

We copy the following from the Louisville Journal. Few litters of pigs, we think, can be found to exceed Mr. Spilman's, and those must be unreasonable, who with such evidence before them as is afforded by the weight of Mr. Sprague's or Spilman's hogs, still complain of the light weight of the Berkshires. "Mr. Thomas B. Spilman of Hunter Bottom, Carrol co. Ky., recently slaughtered 9 Berkshire pigs, full blood, of one litter, 20 months and 6 days old, weighing 3,429 lbs. Mr. S. says that these hogs were fed as a majority of farmers feed their hogs, no more care being taken of them than is generally taken of common hogs. The weight was certified by two respectable citizens. Three weighed over 400 lbs. each. Mr. S. banters the state to beat him with one litter of the same number of pigs."

NEW DOMESTIC FOWL.

In the Queen's aviary at Windsor, are many birds of the most rare and valuable kinds. Among these, according to the London Times, "are seven Cochin China fowls, five hens and two cocks, imported direct from Asia, and presented to the Queen. Such is the extraordinary size of these birds, that when full grown they will stand on the ground and feed from a table 3 feet in height; their usual weight being from 22 to 24 lbs. per couple. Their eggs, the shells of which are of a dark mahogany color, possess a delightful flavor, and are highly prized by the Queen. One of the pullets has laid 50 eggs in less than eight weeks." Sir George Staunton, in his "Macartney's Embassy to China," was the first to make this bird known to the European public, and it has been described by Temminck under the name of Fire-backed Pheasant of China, (*Euplocamus ignitus,*) and is a most beautiful as well as large and rare bird. It is figured among other pheasants in Temminck, and in the Encyclopedias. It is supposed that hybrids of this bird and the common domestic fowl, would be most valuable to the farmer or poulterer.

SALT AS A MANURE.

A writer in the Farmers' Journal says that Salt has the effect to keep soils moist in the heat of summer, and soft in the winter's frost; thus it suits dry soils and seasons, while most other concentrated manures require wet—that by this and its penetrating quality, it keeps every thing in the soil in the softest and most soluble state, best fitted to work on each other, and to be acted on by the air and weather.

SILK.

The Newburgh Telegraph contains a communication on the silk business, from Nathaniel G. Church. Mr. C. has been experimenting in this business for four or five years, successfully. He says he means to keep an exact account of all the expenses and results, in order to lay before the public, another season, satisfactory evidence of the utility and importance of the business. We hope he will do it—*facts* are what the people are waiting for

LARGE HOGS.

The Boston Cultivator says that Capt. Daniel Chandler of the House of Industry Farm and Garden, at South Boston, has lately killed 27 hogs, which weighed on an average 415 pounds. They were one year old last spring. These hogs came (when young,) from Columbia county, N. Y., and were said to be a cross of the Berkshire and Grass breeds. "Capt. C." continues the account, "keeps his hogs in summer, on swill from the house, and vegetables from the farm and garden, until within three months of the time of killing, then meal is added to these articles."

BARBER CO. (ALA.) AG. SOCIETY.

A letter from a friend in Eufalla, Ala., informs us that an agricultural society had been formed, and a fair holden in that neighborhood, which promises to be very useful in exciting a spirit of improvement, &c. The writer describes the country as new, but improving rapidly. Ten years ago, it is said, it was an unbroken forest. Cotton is now selling at as high prices as are brought in the United States—a considerable quantity has lately changed hands at 8½ to 10½ cents per lb.; the farmers and planters are vying with each other in the production of a good and beautiful article. The writer of the letter alluded to above, wishes to know whether marl should be spread on the land immediately after being dug—what time and manner it should be applied, in what quantity, whether mixed with other manures, &c.

THE CULTIVATOR FOR PREMIUMS.

During the last month the Cortland Co. Ag. Society of this state, have ordered 24 copies of the Cultivator—the Newcastle, (Del.) 20 copies—the Ohio and Brooke counties (Va.,) 14 copies, and the Muskingum (O.) 8 copies for premiums.

FARMING IN THE WEST.

THE farm of Mr. THOMAS NOBLE, near Massillon, Stark county, Ohio, furnishes one of the best examples of systematic and *profitable* cultivation, to be met with in the country. Mr. Noble is by birth an Englishman, and came to this country and settled where he now resides, some eight or ten years since. His staple products are wheat and wool. The soil of the farm is not naturally of the richest kind, but is well adapted to the course of husbandry pursued by its owner. With the exception of the roughest and poorest part, the whole is, in its course, alternately pastured with sheep and sown to wheat. Sheep admirably prepare the land for wheat, and a better course could not perhaps be pursued. He keeps fifteen hundred Merinoes, and a small flock of Leicesters. The latter were imported a few years since by Mr. Henry Parsons, late of Massillon, now of Hamilton, Canada. These were a very superior lot of sheep, of most beautiful form, and equal to any we have ever seen of that noted breed. Mr. Noble says he can "feed and clothe" a given amount of population, from less land and with less expense, with this breed of sheep, than can be done with any other stock. These sheep, though fed no better than the Merinoes, show an astonishing accumulation of fat. A buck from this flock, which had never been fed with any thing but hay and grass, got cast on his back last summer, and strangled. His carcass was found completely encased with fat, like a fat hog's, from one to two inches in thickness. The average weight of their fleeces is from six to seven pounds of washed wool.

The Merino flock is a very valuable one, and has generally averaged over three pounds of wool per head, which for the last eight years has been sold in New-York at an average price of fifty cents per pound. Mr. N. has lately crossed some of this flock with an excellent buck descended from the Paular sheep imported from Spain some years since by William Jarvis, Esq. of Weathersfield, Vt. This has proved a very valuable variety for the northern section of the country. They are very hardy, are better formed, and produce considerably more wool than the Merinoes generally do.

Mr. Noble feeds his sheep on a very judicious and and economical plan. They are all sheltered under his barns and in sheds, in winter, and are fed with cut straw; a bushel of wheat shorts and a bushel of potatoes or turneps, being allowed to every hundred sheep daily, in addition to what straw they will eat. The ewes, just before lambing, have hay instead of straw. The straw is cut with one of Eastman's cutters, worked by horse power. It performs well, and Mr. N. is satisfied that there is a great advantage in cutting nearly all the fodder which he uses—clover hay and straw particularly. By cutting, the stock eat it much more readily, and none is wasted. The turneps or potatoes, (Mr. N. prefers the latter,) are cut by a machine brought from England, and which does the work much better than any other kind we have seen. A man can readily cut with it a bushel of roots per minute, and it cuts them in the very best shape for the sheep to eat: that is, in pieces half an inch thick, and three-fourths of an inch wide. It is not likely to get out of order, even in cutting frozen roots, and if a knife should get broken, it can be replaced by a new one in a moment. It is called *Gardener's root cutter,* and is, we see, highly recommended in the English agricultural journals.

The manner in which Mr. N. raises his potatoes, is also worthy of particular notice, as the plan may be profitably adopted on many other farms. We will, as briefly as possible, describe what we saw and learned of Mr. N.'s process of cultivating twelve acres of potatoes. The ground had been in grass for several years before, and was pastured with sheep the previous year. The field was level, and the soil of middling quality, free from stones or other obstructions. On a part of the field, some manure was put, and as the ground was plowed, this was scattered into every *fourth* furrow, and the potatoes at once dropped on it, at the distance of twelve to fourteen inches, taking care to drop them at the edge of the furrow, that the sprout might be the less obstructed in coming up. The next furrow covered the manure and the potatoes. In this way the whole field was planted, excepting that on the part for which there was no manure, the potatoes were planted without it. A roller was then drawn over the field lengthwise of the furrows, to even down the edges. When the potatoes were coming up, a light harrow was passed along the rows, after which a double mold board plow, run once between the rows, completed the cultivation. The average yield on the twelve acres, was 250 bushels per acre. The planting was deferred till the season was so far advanced that the potatoes vegetated quickly, and the rapid decomposition of the sod and manure caused them to grow so vigorously that they got the start of all weeds, &c. and soon covered the ground with their tops. To adopt this plan successfully, it is necessary that the ground should be free from stones—at least, such ones as would be any hindrance to the passage of the plow,—and it should be nicely plowed, with rather a shallow furrow. The plow which Mr. Noble used, was the celebrated *Ransome plow,* which is so highly esteemed in England, and which has taken the highest premiums at the most particular trials made there. It performed its work in most admirable style. The ground on a part of it was rather hard trodden, yet the work was all done without the least balk or defect, and with great ease, by two horses. It would be generally considered rather a ponderous implement, compared with the Eagle plow of Ruggles, Nourse and Mason, or the Center-draft plow of Prouty and Mears, but it evidently runs very easy, and will cut the furrow to any desired depth with the greatest exactness. It is made with two wheels, one larger than the other, to run in the furrow, but it may be used with only one. The handles are both fastened to the beam, the mold-board being movable, and so small that it may be drawn nearer to the beam, or thrown out wider from it, according to the width of furrow it is desired to turn. Corresponding to this contrivance of the mold-board, there are shares of different width, to be used as the various kinds of soil and the different objects of the farmer may render expedient. Mr. Noble does not object to the weight of this plow, and the plowman never attempts to throw it round at the ends—the horses, (as all teams should be,) are so well broken that they take it just where it is wanted, to an inch, and the furrows are cut through the field as straight as if they were done by a line. The English plowman prides himself much on the excellence of his work, and bred to it as a *profession,* he arrives at great perfection.

Mr. Noble has also the celebrated Scotch plow, made by WILKIE, wholly of iron. It is quite similar in shape to Ransome's, but has shares of wrought iron and steel. Several shares, varying considerably in width. are designed for the same plow—some are very narrow, not more than four or five inches wide—calculated for hard and stony ground. This plow is much used on the hard flinty lands of Scotland and Wales, and Mr. Noble states that in such situations they will do much better work than any other plow he has seen. The narrow and long pointed share, together with the great strength of the implement, render it particularly well adapted to such work.

Mr. Noble raises about two hundred acres of wheat annually. He adopts generally the *drill* method of cultivation, which he thinks has many advantages over the broadcast method—particularly in the security it gives the crop from rust and mildew. Mr. N. states that he has repeatedly known a drilled crop to mature well, and give a good grain, with a bright straw, when that sown broadcast, and in the same circumstances in other respects, was spoiled by mildew. The greater chance for the circulation of air, which the drilled crop possesses, is thought to be the cause of this difference. For sowing in rows, Mr. N. practices two modes, viz: sowing with a machine, and sowing by hand. The machine is drawn by a horse, and sows three rows at once, sixteen inches apart—finishing the work in the neatest manner as it goes along. In the other method the ground is prepared as in the usual manner, and a small plow called a "ribbing plow," of singular construction, which makes a narrow furrow two or three inches deep, is then drawn across the field at intervals of sixteen to eighteen inches; after which the seed is sown by hand, and a harrow passed lengthwise of the furrows, which draws the wheat into the furrows, and buries it with so much nicety that it looks as if it was sown in rows. Grain sown in either of these ways, stands the winter better than if sown broadcast. The rows of grain being in a small hollow, the rains instead of washing the earth away from the roots, and leaving them to perish by exposure to the winds and frost, are constantly bringing a little more earth to the plant, which enables it to retain its hold, throw out more lateral roots, and push vigorously forward with the first favorable weather.

Mr. Noble uses as much seed as if he sowed broadcast. He sows two bushels per acre, which he thinks is preferable to a less quantity, for soils of medium richness. The richer the land, the less seed is required; because plants tiller out or spread in rich land, more than they do in poor. The yield of Mr. N.'s wheat is usually about 25 bushels per acre. In 1842, he had one field of 40 acres, that turned out an average of 35 bushels.

Mr. Noble keeps no more horses and cattle than are necessary to carry on the farming operations—that is, to perform the work and supply meat and dairy productions for home consumption. By wintering all his stock in a great degree on straw, (which he takes great care to save in good order,) with roots and some shorts, or meal, he is saved the necessity of appropriating a large quantity of land to meadow, and the expense of making a great deal of hay. But his animals are all well sheltered and taken care of, and are, though with moderate expense of feed, kept in fine order.

Mr. Noble's implements are all of the best kinds, and when not in use, are put under shelter from the weather. His harrows in particular, as well as the tools we have mentioned, are much better than are commonly used; and in the construction and use of this implement, it is believed the English are generally ahead of us. Many of our farmers make their harrows, especially for clear land and for seeding, too heavy. The work would be better, more easily and more expeditiously done, by using a lighter harrow, with more slender and sharp teeth.

Mr. Noble pays particular attention to the substitution of machinery and the labor of animals, for that of men, wherever practicable. In the adoption and prosecution of all his plans, *profit*, ultimate or immediate, is his primary object. Chimerical or visionary schemes on the one hand, and the errors of antiquated habits on the other, he alike endeavors to avoid. With a far-reaching glance, he clearly sees that the true course by which to attain the desired end, is the adoption of all *real improvement*—the observance of system and order—doing every thing in the right time and in the right manner. He superintends his business in *person*—constantly exercising a vigilant oversight of all, remembering the Prompter's adage, "*the* EYE *of the master will do more work than his hands*."

VALUE OF TIMOTHY HAY.

Mr. Lewis Sanders, a very distinguished farmer of Kentucky, says, through the Louisville Journal, that he believes Timothy hay (*Phleum praténse,*) is of little or no value, that sheep and cattle will die if fed alone on that kind of hay—that it was remarked by Thomas Gough, a noted cattle breeder, "that he would prefer giving his cattle dry leaves in winter, to Timothy hay"—that Gen. Jas. Shelby, another noted stock breeder, is nearly of the same opinion. We think this rather too severe a denunciation of Timothy hay, even for the latitude of Kentucky—at the same time, we are of the opinion that many persons much overrate the value of this hay. It seems necessary that Timothy should be cut at a critical time, or its value is much diminished. If cut too early, it is light and chaffy; if cut too late, it is hard and strawy. It is very common to let it stand till it is dead ripe, and those who practice this, contend that it is the best mode; first, because it requires less making, and second, that great benefit is derived from the *seed*. Tavern keepers sometimes prefer the "ripe" hay, because it "spends well." Horses will eat *hard* hay better than cattle and sheep—their jaws and teeth seem better calculated for *grinding*—consequently, horses will get along with Timothy hay that was dead before it was cut, better than other stock; but even they find living on that *alone*, a pretty "poor business." But if Timothy is cut *exactly* in the right time, when it is nearest in full bloom, and well cured, we have found it to make hay which both cattle and sheep eat very well, and which seems to be quite nutritious.

EFFECTS OF TEMPERATURE ON VEGETATION.

A REQUEST.

It is well known that one of the effects of an approach to or receding from the equator, is a corresponding increase or retardation of the coming forward of vegetation, particularly its blossoming. Several efforts have been made to ascertain how far such influence of temperature, as developed in successive latitudes, extended; but in countries where a meridian line of some twenty degrees would pass several kingdoms, sufficient unity of action could scarcely be expected to secure very useful results. Another difficulty in the way, is finding any plant or tree which will thrive under the equator and in the latitude of 50° or 60°. We are not aware that more than one attempt has been made in the U. States, to turn this scale of nature's graduation to account, though the extent of a meridian line wholly within our own territory, would seem to be very favorable for such an examination. A few years since, Prof. Bigelow of Boston, entered upon the task by means of correspondence, and the results as obtained by him are given in an ingenious although imperfect memoir in the 4th vol. of the American Academy. Among the trees, the period of the flowering of which was noticed, the peach tree was the most extensively returned, and it may be remarked that this tree is perhaps better suited than any other for this purpose, it flowering in the open air from the equator to at least the forty-fifth degree of latitude. The following are some of the results obtained from this tree:

Place of Notice.	*Lat.*	*Long.*	*Peach in Blossom.*
Fort Claiborne, Ala.	31° 50′	87° 50′	March 4.
Charleston, S. C.,	32 44	80 39	" 6.
Richmond, Va.,	37 40	77 50	" 23.
Lexington, Ky.,	38 06	85 08	April 6.
Baltimore, Md.,	39 21	77 48	" 9.
Philadelphia, Pa.,	39 56	75 8	" 15.
New-York, N. Y.,	40 42	74 9	" 21.
Boston, Mass.,	42 23	70 52	May 9.
Albany, N. Y.,	43 39	73 30	" 12.
Brunswick, Me.,	43 53	69 55	" 16.
Montreal, L. C.,	45 73	73 11	" 21.

From this table, and from other evidences, Prof. Bigelow infers with much probability, that the difference caused by temperature in the north and south of the U. States, is at least two and a half months; a most important fact, and which does not seem to be generally taken into the estimate of the agricultural capabilities of the respective sections. Longitude appeared to produce little difference in the results, but if the country west of the Rocky mountains were to be taken into the account, such would not be the case, it being ascertained that the average temperature at the mouth of the Columbia, does not vary far from that of Georgia, though many degrees to the north. It appears that in the year alluded to by Prof. B. that at Valencia in Spain the peach blossomed on the 19th of March; the apple tree at London, May 8th; and the cherry and pear at Geneva in Switzerland, April 3.

We should esteem it a great favor if such of our friends and correspondents as keep floral calendars, or such records as enable them to determine such matters, would inform us of the time of the blossoming of the peach or apple; the average times of planting corn, and its ripening; the sowing of wheat and its harvesting. If this could be generally done, and the information so embodied collected in tables, many useful inferences in reference to our climate, &c. might be deduced.

Mr. D. T. Whitmore, near Williamsburg, Va., says that he has a piece of meadow land so completely covered with peppermint that nothing else will grow, and he wishes to know what would be the best course to extirpate it. Will some one who has had experience on the subject answer the inquiry?

FIRES FROM ASHES.

THE records of our Fire Insurance offices show that the most common cause of fires is the use, or rather abuse of stoves; and the next in frequency is the deposit of ashes in wooden vessels, or other unsafe places. Strange as it may seem, not one-half of the dwelling houses in this country are provided with safe places of deposit for the ashes daily accumulating from our wood fires, and in a majority of them a barrel or box performs the office that should devolve on an ash house of brick or stone. This wooden depository is not unfrequently placed in the wood house, or some other of the out-buildings, ready at any time to ignite, or if disturbed by winds, to furnish the spark that will kindle a destructive conflagration. It is generally considered the extreme of prudence, if the ashes, when taken from the hearth and glowing with red hot embers or coals, are placed in holes dug in the center of the surface of the cold ashes, and slightly covered with them, and not allowed to come in actual contact with the sides of the box or barrel. To us it seems most strange that under such circumstances fires from ashes do not more frequently occur, and the great danger of such a disposition of ashes would prevent its recurrence were the evil fully understood.

Almost every family that is unprovided with an ash house of brick or stone, and that is in the habit of using a wood substitute, must have met with cases in which, in spite of all their care in depositing their ashes, serious danger from fire has arisen, the boxes have been burned. charred, or destroyed, greatly to the wonder of the parties interested. Houses are burned, and the misfortune is placed to the account of the incendiary, when it should be placed to the account of the ash box. There are some facts connected with this subject that should be more generally known, as they might have the effect of placing house keepers and house builders more on their guard.

Not long since a friend of ours on taking possession of a place which had been unoccupied for several weeks, when he came to take up the first ashes made from his fires, found that his predecessor had used an old hogshead, and on examination this was found about half full of ashes, covered so as to exclude the rain. A hole was made in the center of these old ashes and the new ones deposited. The next day there was an alarm of fire, and the hogshead was found in flames. Fortunately the fire occurred in the day time, or his buildings, valuable as they were, would most certainly have been destroyed. This occurrence is not an unusual one, and the frequency of losses from this source, induced Prof. H. of Vt. to enter upon a series of experiments to ascertain the cause. From instances that had fallen under his notice, he was induced to believe that when embers or live coals are placed among dry ashes, no matter what may be their age, or how long they have been deprived of fire, a second ignition takes place, which sometimes does not cease until the whole mass has been burned over, although it is frequently arrested before it has reached this extent. Boxes filled with cold ashes, had a quantity of red hot embers and live coals from the hearth placed in their center, and then carefully covered and closed. It was found that the heat gradually increased, the fire extended through the whole mass, the box became charred on the inside, and when air was admitted combustion ensued at once. The same result took place when the box was burned through to the outside. In order to determine whether the combustion of the ashes took place in consequence of the coals which are usually left in ashes, boxes filled with sifted ashes were tried in the same way, and ignition took place as before; proving either that a sufficient quantity of fine particles of coal remained to support combustion, or that a sufficient amount of nitrous matter was obtained from the atmosphere to allow ignition to take place. In either supposition, the manner in which numerous fires annually take place seemed clearly established, and the danger of placing ashes in wood vessels of any kind clearly shown. Nothing but absolute necessity should allow the practice of having barrels or boxes of ashes about our dwellings or out-houses. A safe ash house is as indispensable as a kitchen, and no house should be built where this receptacle is not provided. To the farmer, ashes are of great value, and to waste them or sell them as many do, is the worst kind of prodigality. Leached, or unleached, they are one of the best promoters of fertilization, and should be saved with great care; but never at such frightful risks as the destruction of the farm buildings. Of this there is not the least necessity; the cause of the danger once understood it can be readily guarded against, and if insurance companies would look to this matter in their policies, the evil might be arrested without difficulty.

MR. PELL'S FARM AND DR. UNDERWOOD'S VINEYARD.

At a meeting of the New-York Farmer's Club, a spirited and valuable association, Mr. Meigs made the following statements respecting the farm of Mr. Pell of Ulster co., and the vineyard of Dr. Underwood, at Croton Point, Westchester co. We copy in substance from the Report given in the N. Y. Tribune.

Mr. Pell uses lime extensively on his farm; has used 300 bushels per acre, prefers oyster shell lime. He has used charcoal at the rate of 52 bushels per acre. With this charcoal dressing he last year obtained wheat at the rate of 78 bush. 24 qts. per acre. [For Mr. Pell's account of this wheat, see Cult. for 1843, p. 197.] Mr. Pell had cut wheat so early that milk would be forced from the berry by the pressure of the thumb and finger. This wheat weighed 64 lbs to the bushel, and was of the most beautiful quality. Mr. P. had cut clover and housed it on the same day, sprinkling about a bushel of salt over every load. This clover retained its color, and was preferred by cattle to that cured in the old way. Mr. P. has 20,000 apple trees in full bearing. He has sent to market 4,000 barrels of apples in a year, many of which are sent abroad and sold at the rate of eight or nine dollars per barrel. He kills the apple tree caterpillar by touching a sponge dipped in ammonia to the worm nests, and has banished them from his orchards. In dry weather he applies lime about the roots of his trees, and finds trees so treated retain their verdure and grow better in dry seasons than those not so treated. Mr. P. had 10,000 trees grafted by a company from Vermont. Two sawed the branches, two made the incisions, two inserted the grafts, and two more applied the wax composition. Of 20,000 grafts not one failed. The expense was $150.

Dr. Underwood's vineyard contains 20 acres of Isabella and Catawba grapes, bearing as much fruit as the Dr. pleases to have remain on the vines. It is one of the finest vineyards in the United States. He has also on his farm, 1,700 apple trees, 2,700 peach trees, large quantities of the finest quinces, and many other fruits. His apples are of the best and choicest varieties, and command the highest prices in the New-York markets. These are only a few of the farms and orchards, which will well repay an examination by the lingering traveler, along the margin of the noble Hudson.

ADVANTAGES OF MARL FOR COTTON.

MR. J. H. HAMOND furnishes to the South Carolina Ag. Society, a statement of his experiments in the use of marl, from which we gather the following:

Experiment No. 2.—Very light sandy soil, 1843.

Unmarled acre,	361	lbs. Seed Cotton.				
100 bushels do.	451	do.	Increase	90 lbs.	24·9	per cent
200 do do.	384	do.	do.	23	6·3	"
300 do do.	173	do.	decrease	188	52·	"

The land being very old, is bare of vegetable matter for marl to act on, to which, more than to the texture of the soil, inferior as it is, I attribute the failure of any great improvement from it. I make the statement, however, because it is valuable in many respects. It shows the danger of heavy marling on worn land, without previous rest or manure. The acre with three hundred bushels has been destroyed. There is one rich spot, the bottom of a small basin in the center of it, which produced nearly all the cotton gathered. On the rest of it the weed mostly died as soon as it came up—one hundred proves a better quantity than two hundred bushels, and perhaps a little less would have been still better on this soil.

DR. LEE'S ADDRESS.

THE notice which we had prepared of the proceedings of the Erie Co. Agricultural Fair, was mislaid, and we only refer to it now for the purpose of giving some extracts from the excellent address of Dr. LEE before the Society. The papers prepared by Dr. L. on agricultural topics for the Buffalo Com. Advertiser, had proved him to be adequate to the important duty assigned him, and the address is of the first order. We are happy to state that Dr. Lee is now in the Legislature, a worthy representative of the agricultural interests of the farmers of Erie and the state. We would remark that in the matter of oats and barley, Erie will probably remain without an equal in 1843. The crop of oats that took the premium, was 100 bushels to the acre, and that of barley 80 bushels to the acre. Both these crops were grown by John Carpenter of the town of Wales.

Our first extract will relate to the value of ammonia to plants, and the best mode of obtaining it; and the second to the importance of warmth and quiet to domestic animals. The whole of the address will well repay perusal, and we are glad to perceive it has been embodied in a pamphlet form, with the proceedings of the Society.

VALUE OF AMMONIA TO PLANTS.

"I have stated to you that most plants require, in addition to water and carbon, a portion of nitrogen. This also comes from a gaseous substance in the atmosphere. Although nitrogen forms the largest element in the air, (79 per cent,) yet it has been pretty well settled that plants do not obtain their nitrogen by decomposing common air, but derive it from ammonia, which is furnished to the atmosphere in great abundance by a world of decomposing vegetables and animals. It is the ammonia that escapes from putrifying substances that causes their offensive smell. Now, again comes up the practical question: How are we to collect this highly volatile gas, and transform it at the cheapest rate, into wheat, beans, cheese and wool, of which it is an important element? Rain water has a strong affinity for ammonia—which is a compound of 14 parts of nitrogen and 3 of hydrogen. Water at 50° will absorb 650 times its bulk of this vegetable food. Every rain then, brings considerable quantities of it to the ground. It is the ammonia in rain water that imparts to it its peculiar softness in washing the hands or clothes. It is the ammonia in snow that makes it valuable as a manure; and it is the ammonia in rain water that causes it to putrify in some degree, like an animal substance, when water is permitted to stand in warm weather in a close vessel above ground. The first fall of rain after a long drouth, is much the richest in this gas. Being extremely volatile, it escapes into the air again after a warm shower, much quicker than water evaporates. What then will aid the cultivator of plants, and seize this volatile ammonia, as lime does carbonic acid, and hold it permanently about their roots, in such a shape that it will feed them all they need, and no more? For an excess of this stimulating alkali, like an excess of salt in our food, will destroy life instead of supporting it.

Common charcoal is the cheapest, and therefore the best material to apply to cultivated fields for this purpose. It will absorb 90 times its bulk of ammonia, and will give it out slowly to the vital attraction of the roots of plants. Most of you know that charcoal will correct the taint in meat—will purify rain water in a suitable cistern, so as to render it the purest water for culinary purposes. Such charcoal should be often renewed in filtering cisterns, and when saturated with ammonia, is an extremely valuble manure. The liberal application of this well known substance to the wheat fields in France, has mainly, in connection with the use of lime, added within the last ten years, 100,000,000 bushels to the annual crop of wheat grown in that kingdom. The charcoal should be sown in May, at the rate of 75 bushels per acre, well pulverised. This subject is one of vast practical importance. By studying the science of agriculture, you may grow fifty bushels of good wheat on any acre of your land, I have good reason to believe, every year, bating of course extreme casualties.

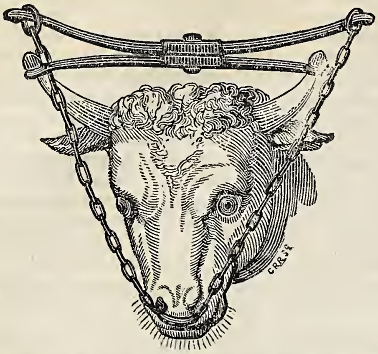
"You all know that a single kernel of wheat, will sometimes, when its fecundity is highly stimulated, send up 20 stalks, and that each stalk will bear a head containing 100 kernels. Here is a yield of 2,000 fold. Nature then has rendered it practicable to harvest 2,000 bushels of good wheat from one bushel of seed. The most skeptical among you will not deny that 2,000 kernels have been produced from one kernel, and that the same natural causes that produce such a result in one instance, will ever operate, at all times, under like circumstances, in the same manner. Hence it is but reasonable to say that nature is quite as willing to produce 50 bushels of good wheat on an acre of ground every year, mark me, *if her laws be obeyed*, as she is to grow fifty bushels of weeds every year on the same ground."

IMPORTANCE OF WARMTH AND QUIET TO DOMESTIC ANIMALS.

"Permit then, a practical agriculturist, who has devoted the best energies of his mind for years, to the study of agricultural chemistry, vegetable and animal physiology, to say to those of you who are wool growers, that by keeping the animal warm in winter, cool in summer, and quiet throughout the year—by stimulating with the elements of wool the organs that secrete this valuable covering of the sheep, it is practicable to clip six pounds of wool as the product from the same amount and value of raw material that now yield you but three pounds. To accomplish this important result, this physiological change in the products of this living machine, you must *quiet the action* of the lungs. These expel from the system every moment, night and day, a needless quantity of animal food, which under more favorable and other circumstances, might have been converted into wool, tallow and muscle. Mark me. There is a positive loss, a needless throwing away of 20 to 50 per cent of the food in wintering all domestic animals, which is literally burned up by nature in this cold climate, to keep their blood and the whole animal some 40 or 80 degrees warmer than the temperature of the air with which they are surrounded. It is not merely the hay, oats and corn in domestic animals, and the bread and meat in man, which are consumed like the animal oil in a lamp, to warm the system, that are lost; but by inhaling a cold and dense atmosphere, and bringing a larger amount of oxygen gas into the lungs, and through them into the blood, than is needed, inflammations are generated, ending in consumptions, alike in man and beast. An animal is an electrical battery or machine. It is practicable so to excite the organs that form fat in a pig, in a positive degree; and so to quiet all the other organs of the animal by a kind of negative electricity, that the animal shall transform nearly all of its food that can be converted into fat, into that well known substance. The same remarks will hold true, in a good degree, when applied to the secretion of milk in cows, and the secretion of wool in the capilliary organs of the sheep. On the other hand, it is quite as easy to make a pig secrete an enormous amount of bone, and an enormous amount of gristle—to have a hide as thick as a board, a nose like a plow beam, ears like sides of sole leather, and legs like an elephant!"

FRAUD IN LAND SALES.

A friend in Marysville, Tenn., informs us that extensive frauds are being perpetrated in that vicinity in the sale of lands. As our informant has not permitted us to use his name in connexion with his statements, we must of course withhold the names of the persons implicated, and can only give the information furnished us in general terms. It is stated "that some two or three years since, a grant was obtained through fraud, of Gov. James K. Polk, of a vast tract of land, purporting to be located in the county of Blount." It is further stated that those who have bought land under this fraudalent grant, have ascertained on removing to it, that it had been granted to others, who have occupied it for at least 20 years. Some people from New-Jersey, who had purchased land in this situation, it is said, after spending all their means in getting to it, have found too late that they have been imposed upon, and are now struggling by hard labor, to get money to take them back to their native state.



PREVENTION OF ACCIDENTS FROM BULLS.

When we were at Mr. Thos. Hillhouse's the other day, looking at his stock, a fine young imported Durham bull was led out. That he might be seen to better advantage, he was let loose in the yard. He directly showed himself much inclined to display his activity and strength by pitching battle with somebody—still he did not seem to be really *vicious*, but merely wanted to display his prowess. But when the man went to put him into the stable, the bull gave him a *gentle* warning to keep his distance, by catching him on his horn and throwing him over his back! Fortunately the man was not seriously injured. On a second attempt being made to put the bull in the stable, he "showed fight" in earnest, and it was not till the tine of a pitchfork had been broken in his head, that he would yield ground an inch!

Bulls, like *every body else*, have a great desire to do *as they please*—and we find this disposition quite as strong in those whose propensities would lead them to do *wrong*, as in others—hence, for common safety, *all* animals should be placed under some restrictions, and these restrictions should be more or less rigorous, according as the disposition and character of the individual shall show to be necessary.

We here give a contrivance for the prevention of accidents from unruly bulls, which we think is the best thing of the kind we have seen.

It is copied from the Complete Grazier, and is thus described: The above engraving furnishes a good representation of a front view of the apparatus as affixed to the head of the animal. It consists of a straight piece of iron, stretching from horn to horn, perforated at each end so as to pass over the tips, and strongly fastened on the horns. On the center of this is riveted a *curved* bar of iron—or which is better, steel—bending upwards, which moves easily on the rivet, and has holes at each end containing the upper round link of a chain. These chains again unite in a strong iron or steel ring, which opens with a hinge and screw and passes through the bull s nose. The effect of this contrivance is, that if the bull should make a push forward, the curved bar will prevent any bad consequences, and if he move in the smallest degree to the right or left, the bar communicating by the chain with the ring in the nose, will bring him immediately to check.

Every bull should have a ring in the nose, and the best way to lead him is by a strong stick, like a hoe handle, with a hook and spring at one end, to be attached to the ring in the nose. The animal is thus kept at a proper distance from the person who leads him.

DAIRYING.

Phineas Hardy, near Luray, Jefferson co. in this state, keeps 49 cows. He made last year 14,000 lbs. cheese, and 2,000 lbs. butter. He rears his cows. His cows gave an average of 14 to 15 quarts per day, on pasture; in the best part of the grass season, the best of them give 20 quarts per day. He has tried a cross with the Durham breed, and is satisfied that it is an improvement; prefers the *half* bloods to those which have either more or less of the Durham; they are better milkers, keep easier, and hold out longer—that is, their constitutions are better. Mr. Hardy has taken several premiums on cheese, at our state and county shows.

DEMAND FOR LONG WOOL.

We have great pleasure in laying before our readers the following letter from Samuel Lawrence, Esq. of Lowell, in answer to one we addressed him, enclosing samples of wool from some Leicester sheep, owned by Mr. Howard, associate editor of the Cultivator. It will be seen from this letter that rapid advances are making in this country in the manufacture of such goods as require long wool, such as is produced by the breeds of sheep known as Cotswolds, Leicesters, Linconshires,&c. and that the increasing demand for this kind of wool affords encouragement to the breeders of these sheep, which they have not heretofore enjoyed. It will be seen also, that Mr. S. expresses great confidence in the belief that the prospects of the wool grower are fully equal to those of any other branch of husbandry.

Lowell, Jan. 10, 1844.

Editors of the Cultivator—My numerous engagements at the opening of the year, have prevented an earlier reply to your respected favor of the 28th ult.

I have examined the two samples of wool, and am of opinion that they are admirably adapted to combing purposes for the manufacture of *Mouslin de Laines*. The staple is long, strong and lustrous, qualities not desirable for felting purposes, especially the two latter. I judge these samples to be from Cotswold sheep, a breed which it is very desirable to propagate in this country, as the worsted business is just coming into existence. The secret of England's advance of all the world in the manufacture of worsted goods, lays in the fact of her possessing better breeds of sheep for the production of combing wools, and not from her superior skill in working them.

The worsted business in its various shapes, is to be of immense importance in this country, and it affords me sincere pleasure to be able to say to you that it has already been commenced in this state upon a liberal scale, by parties whose means and intelligence are a guaranty of its success. A great deal of talent and skill have been brought to bear upon this branch of industry, and if I am not greatly deceived, the time is near when old England herself will be astonished at our success. A number of hundred looms on mouslines are already in operation, and more in progress. In addition to the works already projected, a company is now being formed in Boston, with a capital of a million of dollars, for works on Mouslin de Laines, &c.

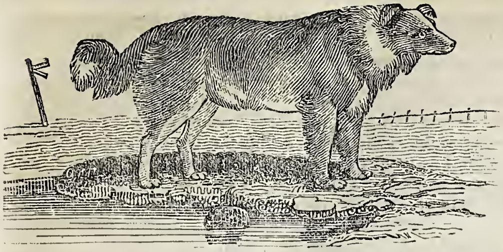
In reply to your inquiry about the kinds and quantities of wool used in the Middlesex mills, I have to say that we use about a million of pounds yearly, of such kinds as are considered in this country the choicest produced; say full blood Saxony, and Saxony mixed with Merino. We are very fastidious in the selection of our wools, both as regards the blood and condition; and in consequence, we are in the habit of paying prices which many manufacturers think absurd.

I am clearly of the opinion that no branch of agriculture promises better than the culture of wool, and I sincerely hope more attention will be given to it than has been paid for the last few years.

Yours, Sam'l Lawrence.

DEVON COWS.

Mr. C. P. Holcomb received the first premium of the New Castle (Del.) Co. Ag. Society, for a Devon cow. "The result of 12 weeks trial with this cow, gave 174 lbs. 12 oz. butter, averaging 14 lbs. 9 oz. per week; the highest product in any one week being 19 lbs., and the lowest 12½ lbs. The week she made 19 lbs., she made one half of it the last three days of the week. Her feed the first part of this time was hay, with dry oat and corn meal mixed; subsequently this was changed to slop—two buckets a day was regularly given her, containing about two quarts of corn meal and as much wheat bran, mixed in a bucket of warm or tepid water, with a little salt. The week of her great trial in June, she was fed on three gallons of meal a day, at three feeds, mixed as above. She had a good run of pasture, and was also for a time fed on green oats, and again with corn fodder that had been sown broadcast."



THE SHEPHERD'S DOG.—(Fig. 00.)

WHERE sheep husbandry is practiced on a large scale, this dog performs so important a part, that some notice of his qualities cannot be deemed irrelevant. The variety which is above delineated, is found chiefly in the extensive sheep walks of the northern part of England and in Scotland, where the purity of the breed appears to be preserved in the greatest perfection. Its docility and sagacity, indeed, surpass those of every variety of the canine race. Obedient to the voice, looks, and gestures of his master, he quickly perceives his commands and instantly executes them. A well trained kog of this kind, is, to a shepherd, an invaluable acquisition. The faithful animal anxiously watches the flock, keeps them together in pasture, from one part of which it conducts them to another, and if the sheep are driven to any distance, he will infallibly confine them within the road, and at the same time prevent any strange sheep from mingling with them.

In keeping sheep on the large prairies of the west, or on extensive hills and mountainous ranges of country, this kind of dog would be found very serviceable. Those who wish to see a specimen of their sagacity, will find one in possession of Mr. Sotham, of "Hereford Hall," which will perform about all that is attributed to any of the species.

FARM OF GEO. GEDDES, ONONDAGA CO. N. Y.

Product and Expense of Cultivating Twenty Acres, for Twelve years.

WE consider the following Farm Report of Mr. Geddes, worthy of notice on several accounts. It furnishes an example of the debt and credit system which every farmer should keep with his several fields, and also the ease with which great productiveness is kept up in a naturally well constituted soil. We had the pleasure last autumn of inspecting Mr. Geddes' beautiful farm, his well constructed barns, stables, &c.; his machinery, worked by water, for raising water to his yards and buildings, sawing his wood, and for other mechanical purposes; and he called our attention in particular to the field, the course of cultivating which he has here described. It lies on the gypseous shales at the base of the Onondaga limestones, and is a deep sandy loam, easily worked, and containing evidently both lime and gypsum in considerable quantities. In its geological position and chemical constitution, it appears to resemble those fertile soils, the analysis of which is given by Sprengel, and one of which had been constantly cropped for 160 years. Few fields of corn we have seen the past season, showed a finer growth than that of this field, but it was much injured by the premature frost of September. To the excellent chemical and mechanical condition of the soil must be attributed its continued fertility, materially aided no doubt, by the clover and plaster used upon it. It should be understood that Mr. Geddes did not offer his farm for examination by the County Committee, but it was visited by them, for the pleasure which every good farmer must feel in witnessing the improvements in agriculture, conducted under the supervision of a man of wealth and intelligence.

Messrs. Brown, Ellis and Cleaveland—Having been absent from home when you visited my farm last summer, to examine the growing crops, I take this mode of giving you such information in relation to the mode of culture, and the results obtained, as I think will be necessary to enable you to judge correctly in the matter.

The land upon which you saw the corn growing, had been pastured two years, and was manured slightly this spring with straw that had been trampled under foot in the barn yard last winter. The manure was drawn on the ground before plowing, and plowed under as well as could be done by one pair of horses before one of the plows known as the Nourse and Ruggles' plow, marked "Sward C.;" the plow going about five inches deep. The ground was then rolled and harrowed. The corn was planted the eleventh and twelfth days of May; the hills three feet apart from center to center, both ways, averaging about five stalks in the hill. As soon as the corn came up it was plastered, and in due time hoed twice. The implement used to prepare the ground for the hoe both times, was a cultivator having steel teeth, which was passed once in each row both ways of the field.

This mode of culture, made the ground, as you must have observed, very clean. Here permit me to say, that ground that is free from stumps and stones, and is plowed well, rolled and thoroughly harrowed, will be clean when the corn is harvested, if it is faithfully hoed twice, unless some very bad weed is to be subdued. Three times cultivating under the circumstances above supposed, will in my opinion, do more injury in breaking the corn down, and trampling it under foot, than benefit. I wish to be understood when I speak of hoeing corn, I mean that every plant besides the corn, is to be cut up or buried, and the work in all respects faithfully performed.

The season will not allow my corn to be harvested in time to report the quantity to you before the annual meeting of the Society. It is now cut up and in stooks.

I had at the time of your visit, a field of barley growing, that may have attracted your attention. It has been carefully measured and weighed, and the ground upon which it grew accurately measured. It produced by measure, forty-nine and one-third bushels to the acre; by weight, fifty-one and a half bushels to the acre, and a small fraction over.

I propose to give you the history of the ground upon which this crop grew, as showing what our best lands are capable of doing, even under ordinary management.

Forty-five years ago, this land was cleared of a moderate growth of oak and hickory timber, interspersed with wild cherry, butternut, box wood, aspen, &c. and sown to wheat. The course of tillage for the first thirty-three years, I know little of, save that barn yard manure has never been used except once, and then in a very small quantity, and on only a small part of the field. Clover and plaster, however, have been used freely from the earliest period that they could be obtained in this country.

Twelve years ago, I came into possession, the land being then covered with clover. The course pursued, and the results obtained from that time, I give you below:

First Year—I summer fallowed, receiving from the land only the pasture, during the fore part of the season, say four weeks, a cow being kept upon each acre at 25c. per week,	$1·00
Second Year—Harvested wheat. The crop was sown early, and grew large in the fall, and the snow was very deep, and remained on the ground till late, and the crop was so injured that probably not more than five acres were harvested. One hundred bushels only was obtained, it being at the rate of five bushels to the acre on the whole piece, at one dollar per bushel would give per acre,	5·00
Third Year—Put in corn, and had by measure, a little over sixiy bushels per acre, sold at 50c. per bushel,	30·00
Fourth Year—Corn again, estimated at fifty bushels per acre, at 50c.	25·00
Fifth Year—Oats, measured seventy bushels per acre, at 37½c.	26·25
Sixth Year—Harvested wheat, put in after oats, measured twenty bushels per acre, and sold at $1·50	30·00
Seventh Year—In pasture. An acre will keep one cow for six months, at 25c. per week,	6·50
Eighth Year—Sowed oats, measured sixty-five bushels per acre, at 37½c.	24·37
Ninth Year—Wheat after oats, 19¾ bushels per acre, sold at $1·31¼	25·87
Tenth Year—Summer fallowed and pastured, say one cow 4 weeks, at 25c.	1·00
Eleventh Year—Harvested wheat, injured by rust, fifteen bushels per acre, sold at $1·00	15·00
Twelfth Year, 1843—Barley, fifty-one and a half bushels per acre, sold at 37½c.	19·31
Total value of product of one acre for twelve years,	$209·30

From this sum is to be deducted the cost of cultivation, seed, plaster, and clover. No account has been kept of these items, but practical men, like yourselves, can judge of the estimate I herewith submit.

You will recollect that this land is free from stone, stumps, and every thing that can obstruct the plow, and that clay and sand are so mingled, that it is of very easy cultivation.

First Year—Summer fallowed.	
Second Year—The first crop, wheat was harvested, and cost as follows:	
Breaking up one acre, with one span of horses, two-thirds of a day,	$1·33
Harrowing same one-fifth of a day,	40
Cross plowing same twice, one day,	2·00
Harrowing same three times, half a day,	1·00
Seed wheat, and sowing same,	1·50
Harvesting 20 bushels of wheat to the acre, and drawing same,	1·50
Threshing 20 bushels of wheat, at 10 cts.	2·00
Cost of first crop, per acre,	$9 73

This crop being a failure, the charges above for harvesting and threshing are high.

Third Year—The second crop, corn, cost—	
Plowing and harrowing one acre, one day,	$2·00
Marking both ways,	25
A man one day, planting one acre,	75
" " hoeing "	75
" " " " second time,	75
The cost of cultivating one acre for both hoeings,	50
A man three days harvesting at 75 cts.	2·25
Seed corn, and drawing corn to crib,	25
Cost of second crop per acre,	$7·50
Fourth Year—Third crop, corn, cost same as second,	$7·50
Fifth Year—Fourth crop, oats, cost—	
Plowing one acre, half a day,	$1·00
Harrowing in seed, quarter of a day,	50
Three bushels of seed oats, at 37½ cts.	1·12
Harvesting one acre,	1·25
Threshing seventy bushels of oats, at 4 cts.	2 80
Cost of fourth crop per acre.	$6·67
Sixth Year—Fifth crop wheat, put in after oats, cost—	
Twice plowing one acre, one day,	$2·00
Harrowing one acre, quarter of a day,	50
Seed, and sowing,	2·00
Harvesting and drawing into barn,	1·50
Threshing 20 bushels of wheat, at 10 cts.	2 00
Cost of one acre of fifth crop,	$8·00
Eighth Year—Sixth crop, oats on clover sod, cost—	
Plowing one acre,	$1·33
Harrowing in oats, quarter of a day,	50
Three bushels of seed oats, at 37½ cts.	1·12
Harvesting one acre,	1·25
Threshing 65 bushels of oats, at 4 cts.	2·60
Cost of one acre of sixth crop,	$6·80
Ninth Year—Seventh crop, wheat sown after oats, cost—See fifth crop,	$8·00
Eleventh Year—Eighth crop, wheat, summer fallowed, cost—See first crop,	$9·73
Twelfth Year—Ninth crop, barley, 1843, cost—	
Plowing one acre of sod,	$1·33
Harrowing seed quarter of a day,	50
Rolling the ground after sowing,	25
Three bushels of seed, at 50 cts.	1·50
Harvesting,	1·25
Threshing 51½ bushels, at 6 cts.	3·09
Cost of one acre of ninth crop,	$7·92
During these twelve years, clover was sown four times, and plaster six times, costing in all about,	$4·00
The total value of products of one acre, is	$209·30
The total cost of production for an acre, is	75 85
The value of products over cost of production,	$133·45
Which divided by the number of years, gives for the annual profits,	11·11¼

In this estimate, nothing has been charged for fences or taxes. On the other side of the account might have been credited to the land, the value of pasture after the wheat had been harvested; the straw too was worth something, and the cornstalks; these three items will more than balance the fencing and taxes.

No very large crop has been raised during the whole time, unless the barley should be so considered. The prices for which I have sold, have not been extraordinary, and I have suffered one almost entire failure, and one partial failure of a wheat crop. No particular skill has been applied, nor is there any particular good fortune to credit the result to. The soil alone, by its native energy and good qualities has produced the result, the last crop of the series being the heaviest of all. Production has been pushed more with a view to see when the soil would be exhausted, than how fine crops could be obtained, or how the most money could be realized.

Respectfully your friend, **Geo. Geddes.**

Camillus, N. Y., Sept. 28, 1843.

MERCER OR CHENANGO POTATOE.

We have heard some complaints within a few years, that this potatoe was not as good as it used to be, or that it had degenerated. The following extract which we make from a well written communication in the Maine Farmer, agrees so well with our experience and opinions, that we feel a pleasure in laying it before the readers of the Cultivator. The remedy he proposes will not fail.

"But has the Chenango degenerated? We answer yes. The Chenango when first introduced into this state, was a mixture of two distinct varieties; one kind is always very good, and always produces its like, while the other is comparatively bad, and yields after its kind. Every body knows, for every body has eaten Chenangoes, that some of them when cooked, are white, dry, and good flavored, while others are very dark blue through the whole potatoe, watery and strong flavored. The light kind is always fit for the table, and the dark, never. The light kind are the best formed and yield the best. The dark kind does not ripen so early as the light. In the raw state, it is difficult, if not impossible, to distinguish in all cases the one from the other, but when cooked or cut, they are easily distinguished. The dark variety has increased upon the light, and being unfit for the table, has caused the Chenango to be less esteemed. As we planted this year but two acres, we concluded to *improve* the Chenango for our own use; and accordingly when cutting our seed, we rejected the dark kind; and the barrel we send is a fair sample of the produce. The result is as we expected, and is satisfactory. We now know the Chenango can be so improved in a single season, as to be as perfect a variety as ever grew; that is, that every potatoe of suitable size to cook, will be *good* when cooked."

IMPROVED VARIETY OF RICE.

The South Carolina Temperance Advocate, publishes the proceedings of the State Ag. Society of that state, among which we notice that mention is made of a new variety of rice, called the "big grained rice." It was first discovered in 1838. A person found a part of an ear lying in the barn yard during the threshing season, and from its peculiarity was induced to preserve it. Subsequent experiments have proved it to be unusually productive. Mr. Joshua John Ward, states that in 1840 he planted not quite half an acre with this seed, which yielded 49½ bushels of clean winnowed rice. In the year 1842, he planted four hundred acres with this seed, and being so perfectly satisfied with both the product and the improved quality of the same, he was induced in the succeeding year (1843,) to sow with it his entire crop. The first parcel, when milled, consisting of eighty barrels, netted *fifty cents* per cwt. over the primest new rice sold on the same day.

Mr. Ed. T. Heriot, states that he planted of this seed in 1839, two fields, one of 15, the other 10 acres, which yielded 73 bushels per acre. The average crop from the same fields had been only 33 bushels per acre.

KNITTING MACHINES.

A correspondent inquires where the rotary knitting machines may be had? Can any one answer?

A meeting was recently held at Burlington, New Jersey, at which it was resolved to form a State Horticultural Society.

NEW-YORK STATE AGRICULTURAL SOCIETY.

ANNUAL MEETING.

THE annual meeting of the New-York State Ag. Society for 1844, was held at the Geological Museum, Albany, on the 17th of January,—the President of the Society, JAMES S. WADSWORTH, Esq. in the chair.

The first business attended to was the admission of members—89 being admitted, paying $1,00 each.

The Report of the Committee on Field Crops, consisting of Messrs. HILLHOUSE, BEMENT and HOWARD, was then read as follows:

The Committee to whom was referred the examination of the statements of the competitors for premiums offered by the N. Y. State Ag. Society, on "*Field Crops*," having attended to that duty, respectfully offer the following Report:

BARLEY.

1. To Bani Bradley, East Bloomfield, $10. Product, 140 bushels 21 lbs. from two acres and 21 rods.
2. To George Geddes of Camillus, $5. Product, 51 82-100ths bushels, average on five acres.
3. To Wm. Wright of Vernon, vol. of Transactions. Product, 82 bush. 22 lbs. on two acre.

INDIAN CORN.

There were three competitors for the premiums on Indian corn, neither of whom, the committee state, had sufficiently complied with the requisitions of the Society to justify the award of a premium.

WINTER WHEAT.

1. To. N. S. Wright, Vernon, $10. Product, 80 bush. 55 lbs. on two acres.
2. To Wm. Wright, Vernon. Product, 73 bush. 12 lbs. on two acres.

SPRING WHEAT.

1. To Uri Beach, West Bloomfield, $10. Product, 75¾ bush. on a fraction over two acres.

RYE.

1. To Geo. M'Geoch, Jackson, $10. Product, 77 bush. on two acres.

PEAS.

1. To. Geo. K. Smith, Utica, $10. Product, 46 bush. 20 quarts, on one acre and 14 rods.
2. To Myron Adams, East Bloomfield, $5. Product, 43¼ bush. per acre.

OATS.

1. To Joseph F. Osborn, Port Byron, $10. Product, 109¼ bush. on one acre, 11 rods and 90 links.
2. To David Jones, Kendall, $5. Product, 209 bush. 11 lbs. on three acres and 11 rods.

RUTA BAGAS.

1. To H. S. Randall, Cortlandville, $10. Product, 950 bush. on one acre and two rods.

CARROTS.

1. To Wm. Risley, Fredonia, $10. Product, 1,350½ bush. on one acre.

POTATOES.

1. To H. D. Grove, Hoosick, $10. Product, 518 bush. on one acre and 72 rods.

ESSAYS.

The President then read the Report of the Committee on Essays, from which it appeared that the prize for the best Essay

1. On the Diseases and Insects injurious to the Wheat Crop, was awarded to JOHN J. THOMAS of Macedon, Wayne county.—$20.
2. On the Varieties and Culture of Wheat, to RAWSON HARMON, Jr. of Wheatland, Monroe county.—$20.
3. On the Introduction and Culture of new Agricultural Products, to JOHN J. THOMAS, of Macedon, Wayne county.—$20.

REPORT OF THE COR. SECRETARY.

H. S. RANDALL, Esq. Cor. Sec'y, not having prepared his Report, made a brief statement, from which it appeared that his efforts have been continued through the past year, with untiring zeal in behalf of the cause.

TREASURER'S REPORT.

The Treasurer, E. P. PRENTICE, Esq. read his annual Report, from which it appeared that there was in his hands at the last annual meeting, the sum of $1,843 92

Received at annual meeting from 69 members,	69 00
Of Joseph Fellows, Geneva,	100 00
Of James Wadsworth, Geneseo,	50 00
Of James S. Wadsworth, "	50 00
Of W. W. Wadsworth, "	25 00
Of Wm. P. Van Rensselaer, Albany,	25 00
Of J. M. Sherwood, Auburn,	22 00
Of J. B. Murray, Mt. Morris,	10 00
Of R. L. Pell, Pelham,	10 00
Of A. Ayrault, Geneseo,	7 00
Of Edmund Kirby, Brownsville,	5 00
Of Orville Hungerford, Watertown,	5 00
Of C. H. Carroll, Groveland,	5 00
Subscriptions at Rochester,	278 00
Monroe Co. Ag. Society,	328 00
589 Memberships at annual Fair,	589 00
Receipts at gate in sums less than $1,	1,606 78
From the State Treasury,	700 00
For interest on funds,	92 99
Various other sources,	87 25
	$5,906 94
Advanced by Treasurer,	139 63
	$6,046 57

The payments from the Treasury during the year were as follows:

For premiums, expenses, &c	$2,956 57
Invested in Albany City stock,	3,000 00
Premium on do.	90 00
	$6,046 57

Mr. DENNISTON of Orange, introduced a resolution directing the appointment of a Committee of one from each Senate district, by the chair, to report the nomination of officers for the ensuing year, which, at the suggestion of Mr. BOCKEE, was increased to three from each district.

Mr. RANDALL moved as an amendment to Mr. D.'s resolution, that the Committee consist of one person from each county represented, to be appointed by the delegation from the several counties, and that this committee, in addition to nominating officers, report on the *place* for holding the next Cattle Show.

This resolution and the amendments proposed, drew out a debate of considerable length, in which Messrs. Denniston of Orange, Lott of Kings, Johnson and Seymour of Oneida, Hogeboom of Columbia, Randall of Cortland, Nott of Albany, and several other gentlemen whose names we do not recollect, participated.

Mr. DENNISTON finally accepted the proposition to amend his resolution so as to refer to the Committee the question of selecting the place for the Fair, in which shape it passed, and the following gentlemen were appointed the Committee to nominate officers and to select the place for holding the next Cattle Show:

First District—Messrs. Lott and Rappelye of Kings, and F. S. Williams of New-York.

Second District—Messrs. Denniston of Orange, Bockee of Dutchess, and Youngs of Queens.

Third District.—Messrs. Hogeboom of Columbia, Vail of Rensselaer, and Prentice of Albany.

Fourth District.—Messrs. Cheever of Albany, Delavan of Saratoga, and Clark of Washington.

Fifth District.—Messrs. Kirby of Jefferson, Enos of Madison, and Seymour of Oneida.

Sixth District.—Messrs. Mack of Tompkins, Collier of Broome, and Faulkner of Livingston.

Seventh District.—Messrs. Sherwood of Cayuga, Rhoades of Onondaga, and Randall of Cortland.

Eighth District.—Messrs. Lee of Erie, Follett of Genesee, and Backus of Monroe.

Mr. RANDALL submitted the following, as a proposed amendment to the Constitution:

Resolved, That the Presidents of County Ag. Societies shall be ex-officio members of the Executive Board of the N. Y. State Agricultural Society.

On motion of Dr. BEEKMAN,

Resolved, That the President of the Agricultural Society of the State of New-York, be authorised to appoint three individuals, members of the society, whose duty it shall be for each to read an essay on some subject connected with agriculture, and that the essays be read at the meeting of the Society in January next.

On motion of Mr. O'Reilly, resolutions were adopted—1. That a committee of seven be appointed to compile and make arrangements for the publication of volumes from the Prize Essays of the Society, of suitable size for Common School Libraries—2d. That a premium of $100 be offered for the best series of Essays "on the importance of scientific knowledge in prosecuting successfully the ordinary pursuits of Agriculture"—said series to be published also in one or two volumes suitable for the School District Library, the author being entitled to the copy-right. [The Committee subsequently appointed by the newly elected President, (Dr. Beekman,) in reference to these publications, consists of the Hon. John Greig of Ontario, Gov. Seward of Cayuga, Lieut. Gov. Dickinson of Broome, John A. King of Queens, James S. Wadsworth of Livingston, Judge Savage of Washington, and Henry O'Reilly of Albany.]

The Committee on nomination of officers, &c. reported that they had agreed upon *Poughkeepsie*, as the place for holding the next Cattle Show of the Society.

They reported a nomination of officers, which, after an amendment, was accepted as follows:

John P. Beekman, Columbia, *President.*
Vice Presidents.
1st Dist.—James Lennox, New-York.
2d Dist.—Thomas L. Davies, Poughkeepsie, Dutchess.
3d Dist.—Joel B. Nott, Guilderland, Albany.
4th Dist.—John Savage, Salem, Washington.
5th Dist.—Edmund Kirby, Brownsville, Jefferson.
6th Dist.—George J. Pumpelly, Owego, Tioga.
7th Dist.—H. S. Randall, Cortland Village, Cortland.
8th Dist.—Rawson Harmon, Jr. Wheatland, Monroe.
Benjamin P. Johnson, Rome, *Cor. Secretary.*
Henry O'Reilly, Albany, *Rec. Secretary.*
Thomas Hillhouse, Albany, *Treasurer.*

Additional Members of the Executive Committee—George Wilkinson, Poughkeepsie; J. M'D. M'Intyre, Albany; George Vail, Troy; Alexander Walsh, Lansingburgh; Joel Rathbone, Albany.

[The nominating Committee reported the name of James S. Wadsworth for re-election as President, and Luther Tucker for re-election as Recording Secretary—both of which nominations were unanimously approved by the Society. But both of the individuals named, were compelled, by other avocations, to decline a continuance in their respective offices. E. P. Prentice, who was on the nominating committee, declined a re-nomination as Treasurer, which was warmly pressed upon him.]

The Society assembled in the evening at the Capitol, where the newly elected officers took their respective stations. After some brief remarks from the President in reference to the duties which he had just been elected to discharge,

The Annual Address was delivered by Mr. Knevels of Dutchess county. The address was replete with facts and arguments illustrative of the importance of Agriculture in all its branches, and in its varied connexions; and was listened to with marked attention during the hour and a half which its delivery occupied.

In addition to members of the Society, the Assembly Chamber was filled with other citizens, embracing various distinguished friends of agriculture from different parts of the state. Among them were Ex-President Van Buren, Lt. Gov. Dickinson, several of the State officers, members of the Legislature, &c.

Resolutions were passed, tendering the thanks of the Society to Mr. Wadsworth, President,—to Mr. Prentice, Treasurer, and to Messrs. Randall and Tucker, Secretaries of the Society, for the able and faithful manner in which they had discharged the duties devolving upon them while occupying those stations.

On motion of Major Davezac of New-York,

Resolved, That the thanks of the Society be tendered to Mr. J. W. Knevels for the able and instructive address delivered by him this evening, and that he be requested to furnish a copy for publication.

On motion of Mr. S. Smith of Putnam,

Resolved, That a committee of three persons be appointed to petition the Legislature to extend the operation of the existing law for the promotion of Agriculture, and for other purposes.

Mr. John Dickson of Ontario county, gave notice that a motion would be made at the next annual meeting of this Society, to amend the Constitution thereof, so as to give to *the Society,* instead of the Executive Committee, the power of fixing the place where the Annual Fairs are to be held.

On motion of Mr. Daniel Lee of Erie,

Resolved, That this Society regards the establishment of an Agricultural Institute and Pattern Farm in this state, where shall be taught thoroughly and alike, the *Science,* the *Practice,* and the *Profits* of good husbandry, as an object of great importance to the productive agriculture of New-York.

The Society then adjourned.

AGRICULTURAL READERS.

In the early part of our experience as publisher of an agricultural paper, we found that the readers of such journals could be divided into two classes, one of which read with profit, the other with very little if any. Of course we do not include in either of these classes, those farmers who already know every thing, despise all agricultural reading, and treat the idea of any improvement in husbandry with the most profound contempt. The number belonging to this class is much reduced, but specimens are occasionally met with.

Farmer A. belongs to the class of readers that receive and peruse agricultural papers with little profit. The reason is, he does not sufficiently exercise his own judgment in reference to the details of farming. He reads a statement that such a farmer was eminently successful in the cultivation of such a crop; the growing or fattening of such or such an animal; or the management in general of a farm on the principles of rotation; and he determines at once to do the same. He does not stop to inquire whether his soil is suited to the particular crop he wishes to grow, whether it is too wet or too dry, too light or too heavy, rich or poor, but pursuing the course pointed out by the successful farmer, he miserably fails in his crop, or his animals, and frequently throws on the publication, or its correspondent, the blame which fairly belongs to himself.

Farmer B. on the contrary, is one of a class of readers that find a decided profit in the perusal of agricultural papers. He takes the same papers as A., but wholly escapes the mistakes into which A. is constantly falling. The reason is to be found in the fact that he exercises his judgment in managing his farm; and is fully aware that a course of husbandry that would be successful on one kind of soil, or one particular location, would be ruinous on another. Because a great crop, or fine animals, have been produced under certain circumstances, he does not go on to infer that they will be so in all, and it is in this discrimination and adaptation, that the cause of his success is found. He reads, compares, reflects, and decides whether a course is suitable for him, his soil, or circumstances, before he adopts it. His agricultural reading furnishes him the means of doing this correctly, and in that he finds a great advantage.

Agricultural publications are not intended to supersede the use of the judgment in matters of practice, among those who receive them; their great office is to enable the farmer to judge correctly as to the proper course for him to pursue; to bring to his notice all improvements in husbandry and agricultural implements, that he may choose wisely for himself; to show what has been done by others, and the way it has been done, that if in the same circumstances, and it is desirable, he may do so too; and to excite to improvement by showing it is practicable and profitable. The farmer must do as do men in other cases, obtain all the light and information possible by reading, and then reflect, reason, decide, and practice for himself.

The range of earthly good is narrow and soon trodden; after a short time there is no variety, and the enjoyment is without hope.

ANNUAL EXHIBITION

Of the N. Y. S. Ag. Society, to be held at Poughkeepsie, September, 18 *and* 19, 1844.

List of Premiums for 1844.

MANAGEMENT OF FARMS.

For skill and improvement in the management of a farm, taking into view the land, stock and produce, with all the appendages,

First premium, a gold medal—Second and third, silver medals.

No premium will be awarded unless an accurate description of the farm and statement of the crops, &c. with all the expense of the management and profit of the farm, is furnished. These premiums will be awarded only to those whose farms are improved in a manner that renders them examples worthy of imitation.

ESSAYS FOR PUBLICATION IN THE "TRANSACTIONS."

For the best series of Essays on the importance of scientific knowledge in prosecuting successfully the ordinary pursuits of Agriculture,	$100
For the best essay on Farm Management, including all the details connected with the successful management of a farm,	$20
For the best essay on the Rotation of Crops adapted to the climate of this state,	20
For the best essay on Subsoil Plowing, with the results of actual experiments in the state of New-York,	20
For the best essay on the Culture and Manufacture of Silk,	20
For the best essay on the cultivation of the Apple, for exportation as well as domestic use,	20

EXPERIMENTS AND IMPROVEMENTS IN AGRICULTURE.

Turning under Green Crops.

For the most satisfactory experiment of turning under green crops as a manure, on not less than one acre of land, with a detailed statement of the whole process in writing, $10—For the second best, 2 vols. Trans.

Preparation and Application of Manures.

Best experiment in the preparation and application of manures, with a detailed statement of the expense and all matters connected with it, $10.

Improvement of Agricultural Implements.

To the person who shall exhibit at the next Fair, any new or improved agricultural implement of his own invention, which shall in the opinion of the committee merit a premium, a Silver medal.

Proof must be given of the work performed by the implement previous to its exhibition, and of its having been used and approved by some practical farmer. To be open for competition to any citizen of the United States.

Comparative value of Crops as food for Cattle.

For the most satisfactsry experiment upon a stock of cattle not less than four in number, in ascertaining the relative value of the different kinds of food used, as compared with hay, with a detailed account of the fodder used, and the expense of raising and feeding the same. The experiments to be made in three winter months, or whenever satisfactory experiments can be made, $20—Second best, 2 vols. Trans.—Third best, Diploma.

Experiments in Indian Corn.

A premium of $25 for the best, $15 for the second best, and $10 for the third best conducted series of experiments in the cultivation of Indian corn. Not less than one acre of ground to be planted.

The experiments to be made with a view of ascertaining what are the peculiar laws relating to that crop—particularly how thick it should be planted, how the plants should be distributed on the ground—whether in hills, drills or otherwise, what kind of manure, and how it should be applied, the manner of cultivation, and the kind of corn planted, to be particularly stated. The cost of each process, the amount of corn raised by each of the different modes of culture, and the relative profits, to be accurately and minutely stated in the report to the committee.

Irrigation.

Best conducted experiment in the flooding and irrigation of lands, $10.

Sheep.

Best managed flocks of sheep, including particular statements of the breed, expense of keeping, increase, amount of wool, value, &c. $12, or a Gold medal.

Dairy.

Best managed dairy, with a detailed statemnt of expense, and every thing connected with the management as well as profits of the same, $12, or a Gold medal.

For the greatest quantity and best quality of butter produced on any farm, from a given number of cows in 30 days the present year, with a particular statement of the method of making and preserving the same, with a satisfactory account of the manner in which the cows have been fed, and the general management of the milk and butter—a Silver medal.

CATTLE.

Class I.—*Best of any breed.*

Best Bull, 3 years old,	$20	Best Cow, 3 years old,	$20
Best Bull, 2 years old,	15	Best Cow, 2 years old,	15
Best yearling Bull,	$10	Best yearling Cow,	$10
Best Bull calf,	6	Best heifer calf,	6

Class II.—*Durham Cattle.*

Best Buil, 3 years old,	$15	Second best,	$10
Third best, Diploma.			
Best Bull, 2 years old,	$10	Second best,	$5
Third best, Diploma.			
Best yearling Bull,	$10—	Second best,	$5
Third best, Diploma.			
Best bull calf,	$5	Best Cow, 3 years old,	$15
Second best,	Diploma.	Second best,	$10
Third best, Diploma.			
Best Heifer, 2 years old,	$10	Second best,	$5
Third best, Diploma.			
Best yearling Heifer,	$10	Second best,	$5
Third best, Diploma.			
Best heifer calf,	$5	Second best,	Diploma.

Class III.—*Herefords.*

Best Bull, 3 years old,	$15	Second best,	2 vols. Trans.
Third best, Diploma.			
Best Bull, 2 years old,	$10	Second best,	2 vols. Trans.
Third best, Diploma.			
Best yearling Bull,	$6	Second Best,	vol. Trans.
Third best, Diploma.			
Best bull calf,	$5	Best Cow, 3 years old,	$15
Second best,	Diploma.	Second best,	2 vols. Trans.
Third best, Diploma.			
Best Heifer, 2 years old,	$10	Second best,	2 vols. Trans.
Third best, Diploma.			
Best yearling Heifer,	$6	Second best,	vol. Trans.
Third best, Diploma.			
Best heifer calf,	$5	Second best,	Diploma.

Class IV.—*Devons.*

Best Bull, 3 years old,	$15	Second best.	$10
Third best, Diploma.			
Best Bull, 2 years old,	$10	Second best,	$5
Third best, Diploma.			
Best yearling Bull,	$10	Second best,	$5
Third best, Diploma.			
Best bull calf,	$5	Second best,	Diploma.
Best Cow, 3 years old,	$15	Second best,	$10
Third best, Diploma.			
Best Heifer, 2 years old,	$10	Second best,	$5
Third best, Diploma.			
Best yearling heifer,	$10	Second best,	$5
Third best, Diploma.			
Best heifer calf,	$5	Second best,	Diploma.

Class V.—*Ayrshires.*

Best Cow,	$15	Second best,	$10

Class VI.—*Crosses of Native and Improved.*

Best Cow, 3 years old,	$12	Best Heifer, 2 years old,	$9
Secoud best,	8	Second best,	6
Third best,	vol, Trans.	Third best,	vol. Trans

Class VII.—*Native Cattle.*

Best Cow, 3 years old,	$12	Best Heifer, 2 years old,	$9
Second best,	8	Second best,	6
Third best,	vol. Trans.	Third best,	vol. Trans.

Class VIII.—*Dairy Cows of any breed.*

For the best Dairy Cow, from which shall have been produced in thirty successive days, the greatest quantity of butter—quality as well as quantity considered—which shall be exhibited at the time,			$15
For the second best,	$10	For the third best,	Diploma.

The manner of feeding the cow, the management of the milk, and the method of making the butter, with the time it was made, the breed of the cow, if known, and the time after calving, must all be accurately stated in writing. The cow and the butter to be exhibited at the time, with certificates from the person or persons who milked, managed the cream, and prepared the butter.

Working Oxen and Steers.

Best, over 4 years old,	$15	Third best,	vol. Trans.
Second best,	10	Fourth best,	Diploma.
Best 3 yoke of oxen or steers 2 yrs old, belo'ng to 1 person,			$15
Second best,	$10	Third best,	Diploma.
Best ten yoke of oxen from any one town,			$20
Best yoke of steers, 3 yrs.	$15	Second best,	$10
Third best, Diploma.			

[In awarding these premiums, particular reference will be had to the matching, training and docility of the animals, as well as their general appearance.]

Best yoke of steers, 2 yrs.	$8	Second best,	vol. Trans.
Third best, Diploma.			
Best yoke of steers, 1 yr.	$10	Second best,	Diploma.

Fat Cattle.

Best yoke,	$20	Second best,	$15
Third best, $10.			
Best fat ox,	$15	Second best,	$10
Third best, vol. Trans.			
Best fat cow or heifer,	$15	Second best,	$10
Third best, vol. Trans.			

☞ A fat ox taking a premium as one of a pair, cannot compete singly for another premium.

HORSES.

Best Stallion, 4 years old,	$20	Best breeding Mare,	$20
Second best,	10	Second best,	10
Third best,	vol. Trans.	Third best,	Diploma.
Fourth best,	Diploma.	Best Mare, 3 years old,	$10
Best Stallion, 3 years old,	$15	Second best,	vol. Trans.
Second best,	10	Third best,	Diploma.
Third best,	Diploma.	Best pair matched farm,	$10
Best pair matched,	$10	Second best,	vol. Trans.
Second best,	2 vols. Trans.	Best pair market horses,	$10
Third best,	Diploma.	Second best,	vol. Trans.
Best gelding horse,	$10	Second best,	vol. Trans.

The variety of horse which possesses size, strength and endurance for field labor, combined with that action which qualifies for the carriage or saddle—in short, the "horse of all work"—is probably the most profitable class which our farmers can now engage in rearing; and to such, therefore, will the preference of the Society be given. Horses taking premium in pairs, cannot compete singly for the premium for geldings.

SHEEP.

Class I.—*Long Wooled.*

Best buck,	$10	Best ewe,	$10
Second best,	5	Second best,	5
Third best,	Diploma.	Third best,	Diploma.

Best pen of five lambs, $5.

Class II.—*Middle Wooled.*

Best buck,	$10	Best ewe,	$10
Second best,	5	Second best,	5
Third best,	Diploma.	Third best,	Diploma.

Best pen of five lambs, $5.

Class III.—*Fine Wooled.*

Best buck,	$10	Best ewe,	$10
Second best,	5	Second best,	5
Third best,	Diploma.	Third best,	Diploma.

Best pen of five lambs, $5.

Class IV.—*Fat Sheep.*

Best,	$10	Second best,	$5

Third best, vol. Trans.

Applicants for the premiums on fat cattle and sheep, must furnish statements of the manner of feeding the animals, and the kind, quantity and cost of the food.

The term "long wooled" is designed to include the Leicesters, Lincolns, Cotswolds, and all the English varieties of sheep which furnish the quality of wool suitable for combing—the "middle wooled" includes the South Down, the Norfolk, Dorset, Cheviot, Native, &c.—the "fine wooled" includes the Spanish and Saxon varieties of the Merino and some of their crosses.

SWINE.

Best Boar, over 10 months,	$10	Best Sow,	$10
Second best,	5	Second best,	5
Third best,	Diploma.	Third best,	Diploma.

Best lot of pigs under 10 months, not less than 4 in number, $5

Second best, Diploma.

In awarding premiums on hogs, reference will be had not merely to size or present condition, but that proportion between bone and meat which promises the greatest value from the least amount of feed.

FARM IMPLEMENTS.

Best plow,	$15	Best cultivator,	$5
Second best,	Silver medal.	Second best,	Diploma.
Third best,	Diploma.	Best drill barrow,	5
Best subsoil plow,	$10	Second best,	vol. Trans
Best Dynamometer,	20	Best farm horse cart,	5
Best Farm wagon,	10	Best ox cart,	5
Second best,	vol. Trans.	Best horse rake,	5
Best half doz. hand rakes,	Dip.	Second best,	vol. Trans.
Best grain cradle,	3	Best ½ doz. grass scythes,	Dip.
Second best,	Diploma.	Best " cradle "	Dip.
Best half doz. hay forks,	Dip.	Best " dung forks,	Dip.
Best harrow,	5	Best threshing machine,	15
Second best,	vol Trans.	Second best,	vol. Trans.
Third best,	Diploma.	Third best.	Diploma.
Best fanning mill,	Silver med'l.	Best straw cutter,	Silver med'l
Second best,	vol. Trans.	Second best,	vol. Trans.
Third best,	Diploma.	Third best,	Diploma.
Best improved ox-yoke,	5	Best clover machine,	10
Second best,	Diploma.	Second best,	Diploma.

Best flax and hemp dressing machine, $10.

Articles not presenting any new and valuable improvements, will not be entitled to premiums. Implements and machines must be tested as far as possible, in the presence of the committee.

DAIRY.

BUTTER.—*Not less than* 50 *pounds.*

Best sample,	$15	Fourth best,	Silver medal.
Second best,	Silver medal.	Fifth best,	" "
Third best,	" "	Sixth best,	" "

CHEESE.—*Not less than* 100 *pounds.*

Best sample,	$15	Fourth best,	Silver medal.
Second best,	Silver medal.	Fifth best,	" "
Third best,	" "	Sixth best,	" "

The butter offered for premiums must be presented in butter tubs, jars or firkins.

The claimants for premiums must state in writing the time when it was made; the number of cows kept on the farm; the mode of keeping; the treatment of the cream and milk before churning; the mode of churning, winter and summer; the method of freeing the butter from the milk; the quantity and kind of salt used; whether saltpetre or any other substances have been employed.

Those who present cheese for the premiums offered, must state in writing the time when it was made; the number of cows kept; whether the cheese is made from one, two or more milkings; whether any addition is made of cream; the quantity and kind of salt used; the quantity of rennet used, and the mode of preparing it; the mode of pressure, and the treatment of cheese afterwards.

MAPLE SUGAR.

Best sample, 15 lbs.	$15	Second best,	Diploma.

CORNSTALK SUGAR.

For the best experiment in the manufacture of sugar from cornstalks, from one acre of northern corn cultivated for the purpose, so as to obtain the greatest quantity of sugar, $25.

The process of manufacture and clarifying must be particularly stated in reference to the maple and cornstalk sugar.

SILK.

Best specimen manufac'd,	$15	Second best lb. reeled silk,	$5
Second best,	10	Third best,	Diploma.
Third best,	5	Best half bu. cocoons, 1844	10
Fourth best,	vol. Trans.	Second best,	5
Best pound reeled silk,	10	Third best,	Diploma.

DOMESTIC MANUFACTURES.

Best woollen blankets, $5—Second, 4—Third, 3.

Best ten yards flannel, $5—Second, 4—Third, 3.

Best 10 yards woolen cloth, $5—Second, 4—Third, 3.

Best woolen carpet, $5—Sec'd, 4—Third, 3.

Best tow cloth, 15 yards, $1—Second, diploma.

Best 10 yards linen, $5—Sec'd, 4—Third, 3.

Best 10 yards linen diaper, $5—Second, 4—Third, 3.

Best hearth rug, $5—Second, 4—Third, 3—Fourth, 2—Fifth, 1—Sixth, diploma.

Best ten yards kersey, $3—Second best, 2—Third, 1.

Best rag carpet, 15 yards, $3—Second, 2—Third, 1.

Best double carpet coverlet, $4 Sec'd, 3—Third, 2—Fourth, 1

Best pair woolen knit stockings, $2—Second, 1—Third, Diploma.

Best wove woolen stockings, $2—Second, 1—Third, dip.

Best cotton wove stockings, $2—Second, 1—Third, dip.

Best lb. of linen sewing thread, $2—Second, 1—Third, dip.

Best linen woven stockings, $2—Second, 1—Third, diploma.

Best linen knit stockings, $2—Second, 1—Third, diploma.

Best knit cotton stockings, $2—Second, 1—Third, diploma.

VEGETABLES.

For 6 best stalks Celery,	$2	2 best purple egg plants,	$1
3 best heads Cauliflower,	2	Best h'f peck Lima beans,	1
3 best heads Broccoli,	2	Best " Windsor do.	1
12 best white table turneps	1	Best bunch double parsley,	1
12 best Carrots,	1	3 best Squashes,	1
12 best table Beets,	1	Largest Pumpkin,	1
12 best parsneps,	1	12 best ears seed corn,	1
12 best Onions,	1	Best h'f p'k table potatoes	2
3 best heads of Cabbage,	1	Second best " "	1
12 best Tomatoes,	1	Best variety seedling "	5

Discretionary premiums will be awarded on choice garden products not enumerated above.

FRUITS.

For the greatest variety of table Apples, $5.

For the second greatest,	$3	For the third greatest,	vol. Tr

For the best twelve sorts, not less than three of each, $3.

Best new seedling Apple, $5.

For the greatest variety of table Pears, $3.

For the second greatest,	Vol. Transactions.
For the greatest variety of Winter Pears,	" "
For the best twelve Quinces,	" "
For the best twelve Peaches,	" "
For the best twenty-four Plums,	" "
Far the best six bunches of native Grapes,	" "
For the best six bunches of foreign Grapes,	" "

FLOWERS.

For the greatest variety and quantity, $5.

For the second greatest,	$3	For the third greatest,	vol. Tr.

For the best Floral Ornament, $5.

For the second best,	$3	For the best s'dl'g Dahlia,	$3
For the third best,	vol. Trans.	For the second best,	2

For the best twenty-five varieties of Dahlias, $5.

For the second best,	$3	For the third best,	vol. Trans.

PLOWING MATCH.

First premium,	$15	Third premium,	$10
Second premium,	12	Fourth premium,	6

Fifth premium, Diploma.

Each competitor will be required to plow one-fourth of an acre of sward land in 75 minutes; the furrows not to be less than 12 inches wide and 6 deep—plowman to drive his team.

FIELD CROPS.—(*At Winter Meeting.*)

Best crop of wheat not less than two acres, $15.

Second best,	$10	Third [illegible]	2 vols. Trans.

Best two acres of spring [illegible] $15.

Second best,	$10	Third best,	2 vols. Trans.

Best crop of Indian corn, not less than two acres, $15.

Second best,	$10	Third best,	2 vols. Trans

Best crop of Barley, not less than two acres, $10.
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best crop of Rye, not less than two acres, $10.
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best crop of Oats, not less than two acres, $10.
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best crop of Potatoes for table, not less than one acre, $10
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best crop of Potatoes, quant'y considered, not less than 1 ac. $10
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best crop of Sugar Beets, not less than half an acre, $10.
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best crop of Mangel Wurzel, not less than half an acre, $10.
Second best, ·············· $5 | Third best, ······· vol. Trans
Best crop of Ruta Baga, not less than one acre, $10.
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best crop of Carrots, not less than one acre, $10.
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best crop of Peas, not less than one acre, $10.
Second best, ·············· $5 | Third best, ······· vol. Trans.
Best acre of corn for fodder, sown broadcast, $5.
Best half acre of hops, ···· $5 | Best half acre of tobacco, $5
Best " " flax, ···· 5 | Best acre of cabbage, ····· 5
Best acre of broom corn, $5.

Those who present claims to premiums for farm crops, must state in writing the following particulars:—The condition of the soil at the commencement of cultivation for the crop; the previous crop and cultivation, and quantity of manure used upon it; the quantity and kind of manure the present season; the quantity and sort of seed used; the time and manner of sowing, cleaning and harvesting the crop; the amount of the crop determined by actual weight or measurement; and the expense of cultivation. The land shall be measured by some sworn surveyor, and the claimant of the premium, with two other persons who assisted in measuring, shall certify under oath as to the quantity produced from the piece of land mentioned in the certificate of the surveyor.

DISCRETIONARY PREMIUMS,

Will be awarded for such implements, products. &c. not enumerated, as shall be deemed worthy of notice or encouragement.

COMPETITION FROM OTHER STATES.

Premiums in form of Silver Medals, open to competition from other states, will be given

For the best bull and cow of any breed—Second best, 2 vols. Transactions.
For the best yoke of working oxen—Second best, 2 vols. Tr.
For the best pair of fat cattle—Second best, 2 vols. Trans.
For the best pair of matched horses—Second best, 2 vols. Tr.
For the best pen of 5 fine wooled ewes—Sec'd besf, 2 "
For the best fine wooled buck—Second best, 2 vols. Trans.

REGULATIONS.

The premiums for Essays and Agricultural Implements, will be open to citizens of other states; all others will be confined to residents of this state. who are members of this Society, or who may become so by the payment of one dollar on entering their articles.

The trial of plows will take place at Poughkeepsie, on Monday, the 16th day of September.

No premiums will be paid on any animals or articles taken away before the close of the Fair.

Premiums not claimed within four months after they are awarded, will be considered as donations to the Society.

All persons who intend to exhibit Cattle, Horses, Sheep or Swine, should give notice to Thomas L. Davies, Poughkeepsie, or Henry O'Reilly, Recording Secretary, Albany, previous to the 10th of September, that the necessary arrangements may be made for their accommodation—and all animals must be on the ground by 9 o'clock, A. M. of the 18th September.

All those who intend to compete for the premiums on agricultural implements, butter and cheese, sugar, cocoons, silk. &c. should have their specimens on the ground on the 17th, that they may be deposited in their appropriate places, and the rooms suitably arranged on the day previous to the Fair.

Applicants for premiums are requested to pay particular attention to the notes attached to the premiums on Dairy Cows, Fat Cattle and Fat Sheep, Butter and Cheese, Field Crops, Maple Sugar, &c.

The statements required from those who compete for field crops, must be sent to Henry O'Reilly, Rec. Secretary, Albany, previous to the 1st of January, 1845, and the premiums will be awarded at the annual meeting of the Society, on the third Wednesday of January.

Competitors for the premiums on Essays, must forward their manuscripts to the Rec. Secretary, Albany, previous to the 1st of January, 1845, free of postage.

No premium will be awarded, unless, in the opinion of the Judges of the Class in which it is offered, the animal or article is worthy of such premium.

Prize animals and implements at the previous exhibitions, will be allowed to compete for the prizes: but they must receive a higher prize, or in a different class, to entitle them to a premium. Should the same premium heretofore given them be awarded, they will receive a certificate to that effect, instead of the prize.

Animals and other articles offered for competition, must be labelled with the names and residence of the owners at full length.

FOREIGN INTELLIGENCE.

By the arrival of the mail steamer at Boston on the 20th ult. we were put in possession of our usual supply of Foreign papers and Magazines; but our pages were too full, on their receipt, to enable us to give extracts this month. We also received letters from two of our friends—that from Mr. Rotch we are compelled to lay over till next month—from the other, we have only room for the following extracts, giving an account of the great show of Fat Cattle, at the Smithfield market:

London, Dec. 31, 1843.

Gentlemen—I know not that I have anything to communicate that will be regarded by you as possessing much interest. Considerable excitement prevails here among the farmers at this time, on account of the recent declaration of Earl Spencer, in favor of the Anti-Corn-Law-League. The sensation however, is not likely to be lasting. His Lordship is not an *excitable* man; the sentiments which he has lately very temperately declared, being only those which he has entertained for several years; and although his present position will not, probably, (judging from his well known character,) be very strenuously maintained, yet his reputation as a statesman and agriculturist is such that his opinions cannot be without their influence.

The great show of fat stock, farm implements, &c., at Smithfield, on the 7th, 8th and 9th of Dec., was superior in numbers to any previous one, and the quality of the animals is said by connoisseurs who have had the opporнity of comparing, not to be inferior. The spirited competition between those two rival breeds of cattle, the Short Horned and Herefords, resulted this time somewhat in favor of the former. Last year the Herefords seemed to have rather the advantage—they taking all the first, and seven out of the eleven prizes on *oxen.* Of the prizes given for oxen and steers, the Herefords took *six,* the Short Horns *three,* and the Devons, *two.* For cows and hiefers, the Short Horns took *four,* a cross bred Short Horn and Ayrshire *one,* the Herefords none. The most successful prize takers, were, for the Short Horns, Sir C. R. Tempest and Earl Spencer—for the Herefords, Mr. Perkins, the Earl of Warwick, and others—for Devons, Mr. Umbers took both prizes.

The show of fat sheep was particularly fine. The Leicesters and Improved Cotswolds, among the long-wooled breeds, and the South Down among the short-wooled, as usual bore away the palm. Mr. Twitchell and Mr. Umbers, were the most successful with the long-wools, and Mr. Grantham and Mr. Webb with South Downs.

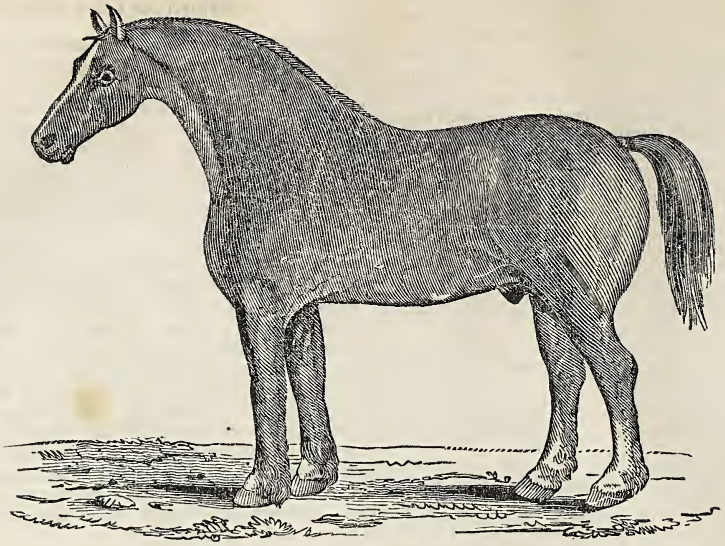
The show of pigs was very good. The Improved Black Essex, exhibited by Mr. W. Fisher Hobbs, were most esteemed, and took the highest prize. There was a pen of three Suffolk pigs exhibited by His Royal Highness, Prince Albert, which were very pretty, and were much admired; but as the judges in this case, as heretofore, showed themselves to be no "respecters of persons," the Prince's animals, although acknowledged *good* and highly creditable to him as *a farmer,* could take no prize. The Prince attended the show, and particularly examined the stock and implements, with all which he was much gratified.

Among the horses exhibited was a most enormous Cart Horse, which, though not five years old, was nineteen hands high!

For a particular and highly interesting account of this show, I refer you to the Farmers' Journal of Dec. 11.

The impression seems to prevail here, that the last grain crop was less than an average, and that the demand for American flour will increase. Considerable agitation exists in regard to the Corn-market, and in what the controversy in regard to the corn-laws, will finally result, cannot now be forseen—a considerable reduction of rent, is all that can reconcile the tenant farmer to the system of reduced duties.

You will see by the papers an account of the death of Mr. J. C. Loudon, the well known author of many very valuable works on agriculture, horticulture, floriculture, &c.



ENGLISH CART HORSE.

THE DRAFT HORSE.

THE above cut represents a Stallion of the improved draft breed, for which the first prize of fifty sovereigns was awarded to the owner, at the meeting of the Highland Agricultural Society, at Aberdeen, Scotland, in 1840. The general characteristics are evidently those of the improved English Cart Horse, which, on the authority of British writers, may be summed up as follows:

This breed are generally small headed for their size, short necked, with thick shoulders, standing rather upright to the collar, short in the back, very wide in the breast, deep and round in the body, with broad backs and loins; the quarters thick, the thighs and fore arms very strong, the legs short, with large round hoofs. They possess great strength, and though somewhat slow, they are not deficient in bottom, and from their great weight, as well as muscular power, they go through draft work that could be performed by no other animal.[*]

From what we have seen of this class of horses, we are inclined to the opinion that they possess properties that are well calculated to improve the stock of this country for farming purposes. Several years ago a grey horse called *Columbus*, was sent into Massachusetts by Gen. John Coffin of the British army—a gentleman, who with his brother, Admiral Sir Isaac Coffin,[†] expended much money in the purchase of the best cattle and horses in England, which were sent as *presents* to the Ag. Soc. of Massachusetts, their native state. Columbus was kept several years in the different counties of Massachusetts, and his progeny were esteemed as the most powerful draft horses that could be had.

Messrs. Corning & Sotham of this city, have an imported English Cart Horse, which we think worthy the notice of those who wish to rear horses for farming purposes, or for heavy draft. The form and size of this horse indicate prodigious strength, and though a person who was unacquainted with the breed might suppose his motions were sluggish, we are satisfied from having seen him in harness, that his natural walk is faster than that of horses in general, and that he is sufficiently active for the plow or wagon. Though not yet five years old, and not within two years of his full weight and power, he will move off with a load that would astonish the driver of a common horse. He is hardy, and is kept fat with only moderate feeding.

The best of the heavy Dutch horses of Pennsylvania, bear a considerable resemblance to the horses above described, and some of them are excellent for draft.

SURFACE AND DRILL MANURING.

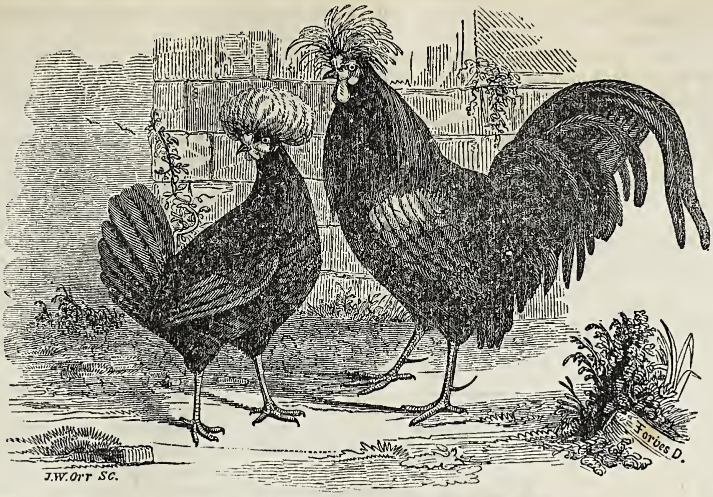
MESSRS. GAYLORD & TUCKER—Doubtless when materials and facilities are had, the best general manner of enriching the soil, is that of incorporating or diffusing the manure therein, so as to have it mixed throughout. But then, in given circumstances, it may be acknowledged that surface and drill manuring have their peculiar advantages. As to my own experience at least, I have found striking benefits in the latter practice. I have doubled my crops of wheat and other small grain, in some cases, by a covering of an inch or so of pine straw or leaves; either applied immediately after sowing, or, as to wheat and rye, in the winter, at my leisure; and then in the spring sowed my clover seed; the growth of which, protected by the shade of the surface covering, (even in light sandy soil,) stood a drouth that otherwise would have proved destructive. And if not sowing clover, I find the surface covering (partly decomposed,) after shading the small grain, plowed under with the stubble, a great advantage to a succeeding crop. My practice in planting corn, is to drill 7 feet, and plant a row of southern field peas between each row of corn. I plow deep, and then putting the manure in the furrow, (into which the old cornstalks are previously thrown,) I run a furrow each side so that the manure is covered, with a hollow left directly over it, in which the seed is put at proper distances; and the manure, through which the perpendicular roots run, is never disturbed by after culture. And therefore, as in some other ways of applying the manure, no danger of firing or injury thereby through dry weather. As to the ruta baga, or other turneps, or cotton crop, or other tap rooted plants, the aforesaid plan of drill manuring does finely. On ordinary land, by this plan, I have raised at rates of 600 bushels of ruta bagas to the acre. And by putting a shovel full or so of manure, put in deeply and covered at distances of 6 or 7 feet, and pumpkins planted thereon, I have raised fine crops in old worn out fields. By plowing and harrowing for after crops, succeeding those of surface or drill manuring, the soil is gradually renovated or brought to a desirable state of fertility. But more of this another opportunity, in the meantime yours, &c. with all due respect.

Brinkleyville, N. C. Jan. 1844. SIDNEY WELLER.

---

[*] Complete Grazier, and Low's Illustrations of British Animals.

[†] Admiral Coffin presented the Mass. Ag. Soc. at different times, a bull and cow of the Durham breed—(*Admiral* and *Annabella*)—a bull and cow of the Hereford breed—(*Sir Isaac* and ——) two stallions and a mare of the Cleveland Bay breed, o stallions of the racing breed—(*Barefoot* and *Serab*,) Barefoot was afterwards reshipped to England to run a great race.


J.W.Orr Sc.
Forbes D.

POLAND COCK AND HEN.

CRESTED FOWLS.

THE varieties of *crested* fowls, or those having a crown of feathers proceeding from a fleshy protuberance on the back of the head, are numerous. We have been informed by a gentlemen of much observation who has several times traveled through Europe, that they are common in France, Italy, Holland, Belgium, Germany, Poland, and England. Their general characteristics are the same, although they are to be met with of every grade of color, and are the more highly prized as the colors are more beautiful and rare. They are occasionally met with having five toes to each foot, like some of the Dorkings, and some of the Bantams. Their combs and gills, or wattles, are usually much smaller than in other breeds, and there are some whose heads are almost entirely destitute of these appendages. It is this race of fowls which the poultry fanciers of the old countries have mostly cultivated, and hence it is that particular tribes are found, each possessing some striking or fanciful peculiarity, which has become more or less fixed and hereditary, according to the degree of care and skill which has been bestowed in breeding. They are considered good layers, seldom or never wanting to 'set,' and though their growth is slow, their flesh is better and more delicate than that of common breeds. Their size is about a medium. Where birds of prey abound, these fowls are reared with more difficulty than others, as, owing to the obstruction of the sight from the crown of feathers, they are more easily caught.

Where the object is eggs, we know of no breeds that are preferable to these. They will lay more eggs until they are two or three years old, than any other sort with which we have ever had any acquaintance. As before observed, they are not inclined to set, but will sometimes lay two days out of three, except in the season of moulting, for two or three years—this has given them the name of "everlasting layers." But from the circumstance of their constantly laying, they *break down* or grow old sooner than those kinds which have intervals of setting—the same as cows that give a great deal of milk, and continue to do so all the year, generally fail sooner than those which give less, and go dry a part of the time.

Where it is desired to breed these fowls, it is best to have some kind that set well, (the *game* hen is *first rate* for this,) to hatch the eggs and rear the chickens.

Of the varieties of the crested fowl, those are most prized by the fanciers which are most rare. Such as *black*, with white tops—the *clear white*—the *white*, with *black* tops, (very rare)—the silver and the golden, a pheasant, a rare and very beautiful kind.

The originals from which the figures at the head of this article were drawn, belonged to Mr. C. N. BEMENT, and were of the variety which are black with white tops, commonly called the Black Polanders.

PROFITS OF POULTRY.

MESSRS. EDITORS—Agreeably to your request, I herewith forward you the account which I have kept with our fowls the past year. They have been confined in a yard of about half an acre, with a house and shed made expressly for them. The house is thirteen feet square, and two stories high. The first is devoted to feeding hoppers and nests, and the second to the roosts. In the shed is dry sand for them to roll in, and boxes of lime, gravel, &c. The fence is made of pickets six feet high, which we find sufficient; after they have been confined for a short time, they become attached to the yard, and seldom attempt to fly over the fence. Around the yard, close to the fence, is set a hedge of white pine trees, and a cluster in the middle, where the fowls resort in hot weather, and as a shelter from hawks.

Most of the fowls were of fancy breeds. The geese of the large Bremen and Chinese varieties. They have been allowed as much grain as they would eat, and a few boiled potatoes fed to them while warm, and occasionally animal food, such as boiled liver, &c. in winter, with lime, gravel, and a constant stream of water running in the yard. Their food was changed often. It consisted of oats, wheat screenings, millet and corn. We found that twelve quarts of oats were sufficient for seventy fowls per day, and other grains in proportion to their weight.

Poultry Establishment.	*Dr.*	*Contra.*	*Cr.*
To 15 Cocks, 50c. each,	$7·50	By 3978 Hen's eggs 12c.	39·78
69 Hens, $37\frac{1}{2}$c.	$25·87\frac{1}{2}$	39 Duck's eggs, 12c.	39
3 Turkeys, $62\frac{1}{2}$c.	$1·87\frac{1}{2}$	39 Turkey's eggs, 12 c.	39
7 Geese, $1.	7·00	50 Guinea hen's eggs, 6c	25
1 Fancy Duck, $1.	1·00	47 Geese eggs, 36c.	1·41
1 Guinea Fowl, 25c.	25	41 Fowls sold,	46·31
71 bu. screenings, 15c.	11·25	5 Geese sold,	7·00
4 bush. Millet, 50c.	2·00	30 Fowls killed,	7·06
$14\frac{1}{4}$ bush. Corn, $42\frac{1}{2}$c.	6·07	2 Geese killed,	2·00
$30\frac{1}{4}$ bush. Oats, 24c.	7·26	2 Turkeys killed,	1·00
8 bush. Potatoes, 25c.	2·00	11 Fowls died,	
32 Fowls purchased,	15·09	1 Turkey died,	
3 Turkeys purchased,	1·13	6 Fowls presented,	
	$88·30	32 bu. manure sold to the Morocco Tanner,	6·00
		54 Hens on hand, $37\frac{1}{2}$c. ea.	20·25
		18 Cocks, 50c.	9·00
		6 Geese, $1.	6·00
		1 Duck, $1.	1·00
		10 Turkeys, 50c.	5·00
		2 Guinea fowls, 25c.	50
			$153·34
		Expense,	88·30
		Profits,	$65·04

Valuing them at the price of common poultry, that i 15 cents a piece for the fowls, and 50 cents for the turkeys and geese, leaves a profit of $30,51.

Albany, Jan. 8, 1844. GEORGE BEMENT.

"EXPERIMENT WHEAT."

Messrs. Editors—I send you a short chapter on wheat. On the 6th of May last, I sowed 11½ bushels of experiment wheat, on six acres of ground, which I understand has been under the plow for 8 or 10 years. I threshed my wheat a few days since, and had the pleasure of measuring 140 bushels of wheat, and 6 bushels of screenings from the six acres. See Cult. v. X, p. 133.)

One acre I suppose, did not yield more than 10 bushels, as it was drowned out. Some of the best I suppose, yielded 35 to 40 bushels to the acre.

The expense of cultivating the six acres, was	$59.00
Credit.	
144 bushels of wheat,	144.00
Straw,	4.00
Screenings,	2.00
	$150.00
Deduct expense,	59.00
Leaves nett profit,	$91.00

Thus my wheat cost me a little less than 40 cents per bushel. The wheat is good and handsome, and the flour is good for all purposes. I consider it more sure than other kinds of wheat, because it is perfectly acclimated.

Cazenovia, N. Y., Jan. 4, 1844. S. Peck.

SALINE MANURES APPLIED TO INDIAN CORN.

Messrs. Gaylord & Tucker—I promised you early last summer, to furnish you with a detail of the result of my experiments in saline manures applied to maize, (Indian corn.)

I mixed each of the following salts with dry, well pulverized muck, 2 oz. of salts to 4 quarts of muck, and applied such mixture to *ten* hills of maize, taking care to incorporate it thoroughly with the soil. The hills were as nearly equal in the number of stalks, and quality and condition of the soil, when the manure was applied, as it was practicable to have them, and were three feet and a half apart from the center of the hill each way. The manure was applied on the 10th of July.

When the corn was cut up, the *ten* hills of *each kind* were carefully preserved by themselves, and at the time of husking, I took into the field my scales, and accurately weighed each kind, noted the weight, and counted the number of ears. The result I give you below. There was no difference perceptible to the eye, in the quantity of stalks of the different kinds, except in the case of No. 1; the stalks and ears of corn of that were smaller than either of the others; and you will perceive that it produced more ears and less weight of corn than either of the others.

No. 1.	Carbonate of ammonia,	51 ears,	weighing	21 lbs.	12 oz.
2.	Muriate of ammonia,	49 "	"	22 "	4 "
3.	Nitrate of ammonia,	47 "	"	22 "	4 "
4.	Phospate of soda and ammonia, equally mixed, 50 ears, weighing 24 lbs. 8 oz.				
5.	Phospate of soda,	48 ears,	weighing	23 lbs.	12 oz.
6.	Nitrate of potash,	46 "	"	22 "	6 "
7.	Muriate of lime,	49 "	"	24 "	

I was induced to make the experiment from seeing in the New England Farmer, a suggestion that Doct. Jackson of Mass., whose scientific researches have afforded many valuable suggestions to the agricultural community, was desirous of having accurate experiments made with these and other salts, (the others I was unable to obtain,) and I regret that the late day when the suggestion of the experiment came to my notice, and a considerable delay afterwards, arising from the difficulty of obtaining the salts, prevented me from applying the manures as early as I think should have been done to be certain of their full practical effect.

The yield you will perceive is very large. According to the table in the Cultivator Almanac for 1844, there would be 3,556 hills of corn in an acre, planted 3½ feet apart each way, and at the rate of 70 lbs. of ears to a bushel of corn, an acre manured as No. 4 was, would produce about 124½ bushels of corn; the rest of that field averaged 69 bushels of corn per acre.

I am unable to learn at what price these several salts could be obtained by the quantity, but at druggist prices by the small quantity, they cost more than the corn is worth. I think it likely, however, that they may be purchased at prices which would render them cheap manures.

Seeing statements by farmers in western New-York, of enormous yields of maize when planted in drills, I last spring planted about an acre and a quarter three feet apart one way, and eighteen inches the other—three stalks together; the field was in better condition than my other maize fields, and was manured as highly as they were. The crop looked remarkably well, and I anticipated an enormous yield; but was greatly disappointed upon husking, to find that it produced only a [illegible] more than 102 bushels of ears to the acre; when an [illegible] planted 3½ feet apart each way, yielded 193¾ bushels of ears; the amount of *stalks* in the drilled field greatly exceeded the other, but they were far from compensating for the deficiency of *grain*. The experiment was fairly tried, and the drilled field was certainly *as well* cultivated as the other, for I intended to offer it for premium; and the result satisfied me that the common mode of planting, three and a half feet apart each way, is much the most productive, unless such an enormous quantity of manure should be applied to the field as to render the crop *unprofitable*.

I give this statement because I deem the detail of *unsuccessful* experiments, of quite as great value to farmers, as that of *successful* ones. Fred. J. Betts.

Newburgh, Dec. 19, 1843.

NUT GRASS.

Messrs. Editors—In your Nov. no. an inquiry is made by Mr. H. Bond of Kingston, N. C., how nut grass may be destroyed. If by nut grass, is meant coco, of which there is much in Louisiana, we would say it is difficult to destroy. Dig it up and burn it, is the surest way. Cotton seed, or Bagasse, so called, after the juice is expressed from the sugar cane, placed, say two feet thick, we believe will destroy it; but what substitute would effect it in North Carolina, where these cannot be obtained, we cannot say. Where it has spread over an extent of surface, it must be let alone, and ditch around it to prevent its spreading.

CORNSTALK SUGAR.

We planted last summer, 4 acres of corn in a proper manner, and cultivated it with great attention. It grew finely, and matured well; the juice weighing 8 degrees, and yielded 450 gallons of juice per acre which produced 50 gallons of syrup per acre, yielding no sugar. In the same field, and immediately adjoining, we planted sugar cane, and harvested it last week, and manufactured it into sugar. It yielded nearly three, or over two and a half hogsheads of sugar, and upwards of 150 gallons of molasses, per acre.

We had supposed we could compete with the north in making cornstalk sugar, but we give it up; and reckon the north will soon do the same in the attempting to compete with the sugar cane.

GRASS

Of all the grasses ever tried in the south, the crab grass exceeds all; and in quality is equal to the best northern grasses. It may be somewhat surprising to some northern farmers, to learn that we plow up our meadows yearly, and sow them yearly. We plow them in January, February, or March, and sow them in oats, which are harvested in May or June; during this time, the grass seed, shed and left deposited on the ground from the season previous, springs up; and by September produces from one to two tons of hay per acre.

It grows rapidly if the season is not too dry, and is sometimes mowed twice or three times the same season. It makes excellent pasture. The white clover grows luxuriant here, on the Mississippi bottoms; and our pastures are now, the last of December, supplied with feed in abundance. It is a fine country for persons in moderate circumstances, as well as those of ample means. We have no paupers here. S. Tillotson.

New River, La. Dec. 21, 1843.

KEEPING CATTLE IN WINTER.

Messrs. Editors—Will you permit an old subscriber to give you some of his opinions on the subject of wintering stock. Here, where our winter is some five months long, economy or prudence would dictate that the methods the best for the animals, and the most conducive to profit, should be adopted; but it seems certain that the means best adapted to produce these results, are sadly neglected by my brother farmers generally.

It is frequently the case that animals are too long neglected in the fall. The cold weather comes on, the ground freezes, and the snow falls, yet the sheep or cattle are allowed to run at large, shivering in the open air, and gleaning as they best can from the frozen earth, something to satisfy their hunger. All animals, and man himself, feels the necessity of protection more on the first attack of frost, than after the system is accustomed to its action; and there is no time in the year when care and attention to stock is better rewarded than in the first setting in of winter. It cannot be too firmly impressed on the mind of every farmer, that it is much easier to keep an animal in good condition, and will require much less food to do it, by not allowing him to fall away, than to restore him after he once becomes poor. Instead then of keeping my fodder until March, to raise my animals after the flesh is nearly all gone, I endeavor to so manage them that from the first cold weather, there shall be no falling off in their food or their flesh.

Providing proper sheds or stables for stock of all kinds is indispensable, where the comfort of the animal and the profit of the breeder is at all consulted. Occasionally animals that are unprotected, come through the winter well; but such animals are usually of the hardiest kind; and it must be remembered, that if unprotected, they come out in good condition, in all probability with protection and the same amount of food, spring would have found them fat. Such instances are the exceptions to a general rule, as the multitudes of poor stock that may be seen every where in the spring, where proper care and attention is not given, abundantly proves. One great office performed by food is to keep the animal warm, and where this is done by stabling or sheds, so much food may be spared. Comfort is essential to taking on flesh, and the man who allows his stock to remain exposed and uncomfortable, must furnish extra supplies of food, or find his animals mere skeletons in the spring. Animals are grateful for their treatment, and the farmer who visits his yards daily with his basket of " nubbins," or his poultry yards with his pockets filled with corn, will find as they gather around him, plenty of evidence that such is the case.

But experience has taught me, Messrs. Editors, that food is not all that animals require. They may live with this, but this alone will not give them high health, or keep them in the sleek condition the skillful farmer desires. How often do we see animals during the winter compelled to go without drink, or to obtain it encounter such obstacles as nothing but burning thirst could overcome. The exertion of wallowing through snow drifts, and traveling perhaps a mile daily for a drink of water, will take off more flesh than an ordinary feed of hay can give, and in the end will make the beast poor. There is scarcely a farm where this inconvenience might not be remedied, if more pains were taken to select a site for the farm buildings, with reference to this and other farming comforts, rather than an anxiety to get as near the highway as possible, as if living in the road was the proper place for the farmer. Salt is necessary for the health of stock during the winter, but it should be fed to them frequently, and not in large quantities at a time.

Sheep should never be kept together in large numbers. One hundred is the utmost limit that should be allowed, and if not more than half this number, so much the better for them. Disease is usually induced by crowding too many into confined spaces, and when once introduced into such places is sure to spread. All animals should have their stables, yards, &c. well ventilated, and plenty of room for moving, or else should be occasionally allowed a chance for exercise. The good farmer is characterized by benevolence to his animals, not less than by the general management of his tillage, or his crops. He will keep no more than he can keep well, and find his profits rather in their excellence, than in their numbers.

Orange Co., 1843. W.

A GREAT FAIR PROPOSED AT BALTIMORE.

It has been, I think, most happily suggested that the occasion of the great Conventions to be held in Baltimore in May next, should be used for a grand *display of American products, inventions, and manufactures of every kind.*

Never before have there been so many men of superior intelligence and influence at home, collected at one point, from all the states in the Union, as there will be then at Baltimore, including the members of the two conventions, which it will be remembered, are to come off within a week of each other. No description that could be written of any great improvement or discovery in agriculture, art, or manufactures, if inserted in every paper of the Union, could so widely and so accurately disseminate a knowledge of it as would such an *actual display* of such improvement or discovery to the more than 50,000 people who will undoubtedly attend these two conventions.

An obvious effect of such an exhibition would be a wonderful distribution of practical knowledge, and the establishment of agencies for vending the best machines and implements employed in every branch of industry, and the most finished products of American ingenuity. The " premium flour at Rochester," was branded and sold as such, in all the towns of this district. The object is so national, and free from all party or sectional taint, that all patriotic editors and citizens may unite in promoting it. Like many other things, however, proposed for the public good, the question is, *how is it to be brought about?* Who is to move in it, and how? Let me suggest an outline of proceeding, to be superseded by any better one that can be thought of.

There is, for instance, a " Mechanic's Institute" in Baltimore; let them be called together, and a committee appointed to procure a suitable place and make the necessary arrangements for the exhibition. Doubtless other societies would unite in this useful enterprise. The city authorities would consult the interests of their constituents, and the reputation of their city, by doing the needful, and by inviting agriculturists, artizans, and manufacturers, to send forward the fruits of their industry and skill from all parts of the country. Let the Franklin Institute and other associations move in it in Philadelphia—in New-York—in Boston. Steamboats might be chartered expressly for the occasion. Proprietors of railroad and steamboat companies would doubtless agree to reduce their charges for cars and boats for the transportation of things intended for the exhibition, no less from patriotic motives, than the consideration of the rich harvest they will reap from these conventions. Nothing can be accomplished without a beginning. Let then meetings be called by even a few public spirited individuals in all the towns, and then the project will make its own way; one thing is certain—if we can get the *editors of papers to take it in hand,* the work is already half achieved; for after all, they are the great levers now by which to *move a nation;* nor is there a class of men which, as a class, contributes as much as the corps editorial, to public enterprises and public charities. If they give not as much as some more opulent classes directly in money, they accomplish much more by the *labor and the publication of thought?* A ten line paragraph will often effect more than ten times ten " silver dollars."

Washington, Dec. 21, 1843. I. S. S.

CORN CROP.

The editor of the *Kent News*, (Md.) raised the past season, 80 bushels of corn to the acre, on a lot of two acres—or measuring the lot so as to avoid loss by turnings, the yield was 84 bushels to the acre. The lot was clover sod, and was not plowed till planting season, when the clover was growing finely—a dressing of " common" manure was plowed under with the clover —the corn was the " white twin sort," and was planted in rows five feet apart, and the bills two to two and a half feet apart in the row.

DEARNESS OF LABOR—EFFCTS OF PLASTER OF PARIS OR GYPSUM—IRRIGATION.

THAT land in Europe produces more, acre for acre, than in this country, whether under the plow or laid down to grass, is not to be attributed to the principles of productiveness being there better understood than here, but chiefly to the want of capital and the dearness of agricultural labor in America. Is there any country where proprietors possess so little means of improving land in proportion to the land they own, as in ours? Many in the southern states, owners of hundreds of acres, have not money enough to buy a new saddle; resembling in their condition, that of a man who may be supposed to perish with cold in the midst of a forest, for want of a spark of fire, or a steel and flint to strike one. Hence the great value of labor saving machinery in our country; and as necessity has been aptly called the mother of invention, no country has displayed so much ingenuity as ours in the invention of contrivances to economise labor.

Far from being behind hand in the *art* of agricultural improvement, no people on the globe excel us in agricultural knowledge; nor has any made greater improvement in comparison with the *labor at the command of the farmer*. Every one understands for example, the paramount importance of increasing his pile of manure; but in no one thing is the dearness of labor so much felt as in the quantity of it which is required to collect the materials for manure, and to haul out and distribute it after it is made. Herein consists the great value of gypsum on lands to which it is congenial; for on some, as for instance on the eastern shore of Virginia and Maryland, owing perhaps to their alluvion soil or saline atmosphere, or to both, it is said to have but little effect; while in other parts of both these states, its effect is absolutely magical. The very small quantity required—a bushel to the acre—and the quickness with which it is applied, has arrested the progress of exhaustion in some of the counties, which, before it was introduced, were on the high road to ruin. In some other respects its effects have been remarkable. It has been the cause, in Prince George's county for example, of increasing the possessions and fortune of land holders, and diminishing the aggregate population. The rapidity with which large bodies of the poorest could be converted into tobacco land, yielding 1,000 weight to the acre, the high price of that article, and the improvements in the implements and modes of culture, by which planters have come to make four or five hogsheads "to the hand," enabled the enterprising land proprietor and slave owner, to make his land, purchased on time, *pay for itself*. Thus, small proprietors of land, owning few or no slaves, were bought out, and moved away to the west large estates have been accumulated by individuals, while the actual population of that county, perhaps the most productive in the state, and within striking of Baltimore, with its population of 100,000 inhabitants, and bordering on the cities of the District of Columbia, has diminished from 20,216 in 1820, to 19,539 in 1840.

The following are among many similar cases to show the operation of the influences to which I have referred; the facts are stated on indubitable authority. The late Governor Robert Bowie, a man of singular energy of character and of the highest moral worth, at the time and under the state of things already referred to, purchased two hundred acres of poor "broom sedge land" for $1400. He put half of it in corn, and probably gathered not more than 10 or 15 bushels to the acre; sowed it down to oats the next spring, and on them sowed clover and plaster of Paris or gypsum. Plastered the clover the succeeding spring, and the spring following planted in tobacco, and sold from it 100,000 weight at $10 per hundred; making $10,000 for half of the land, which three years before he had purchased, probably "on time," for $1400! Many similar instances might be given of the *effects of plaster of Paris* in producing all the results I have stated, but I am wandering from my subject.

Much and effectively as our ingenuity has been taxed in the invention of every expedient to save labor, it seems to me that there is one means of augmenting our crops of grass in a manner as wonderful or at least as great as the effect of plaster of Paris on cultivated crops—which is much practiced in some parts of Europe, but strangely neglected in a country, where of all others, circumstances invite the use of it—I mean IRRIGATION.

You, Mr. Editor, would render an essential service to American Husbandry, if you would yourself give, or prevail upon some one to give an essay on that subject; especially, if you have at your command, so far, the kind offices of some correspondent who has seen the manner in which irrigation is conducted in Europe. I know a great man who could do it, but the game would hardly be worthy of the falcon. If I had time, I would collect the materials and digest such an essay, were it only for the benefit of a few friends who have all the resources for irrigation at command. I. S. S.

Washington, Jan. 1, 1844.

"CLIMATE AND PRODUCTIONS OF THE SOUTH."

MESSRS. GAYLORD & TUCKER—A more cooly impertinent defence or rather *attack*, than that of the "EDITOR OF THE FARMER'S ENCYCLOPEDIA," who is he?) I have never before met with. He *dares* undertake to *cut down* and *fill up* such a work as Johnston's Encyclopedia, to "adapt it to general circulation" in this country, and admits such an article as the one in question—a perfect mass of false statements, and calculated, if allowed to go uncontradicted, to do decided injury to the interests of the South—and when those directly interested, point out the falsehoods, he turns round and tells us, "*he* did not write the article, but that a *Southern man, born and educated in South Carolina*, did write it," and therefore it should be received as gospel! A precious specimen of a *Southern man* he must be! Assuredly *not* a Southern man with Southern principles. For my part I cannot believe that the writer of it was ever south of Mason & Dixon's line. "The author is abundantly capable of taking care of himself, should he feel called upon to do so." He is, eh? Well, if he does not feel himself called upon to do so, when told again and again, that his data are almost invariably incorrect, and most of his statements untrue, he must be made of strange stuff for so bold a writer. I do not myself believe that "he will condescend to notice" the corrections that have been made of his *ingenious data*, because no man is capable o sustaining them. If he thinks he is, let him try. As to the *Editor* in question, his "explicitly stating from whence the article was taken," does not clear him of being suspected of a desire to do the South injustice; he has foisted a mass of false statements upon the public, and given it weight and shelter, by doing so under the wing of a work of superior character. His defence is not calculated to aid in the circulation of his edition in the South.

NUT GRASS OR COCO.

A correspondent dating from Kingston, N. C., is desirous of knowing how to destroy Nut Grass. By this I presume he means *Sweet Coco*. If the *Bitter Coco*, which is ruining some of the finest lands on the Mississippi, and spreading rapidly through the interior, I know no means of destroying or even checking it. But if it be the first named, which is dug up by the children for its nut-like root, it can be destroyed; not without much labor, however. Let your correspondent continue *during one entire summer*, to cut it up before going to seed, taking care to go deep enough to bring it away *below* its tuft of fibrous roots, which branch off at about half an inch below the surface, and the *nuts* will die. If the ground is already full of seed, it will require more than one year to destroy it. It is a troublesome grass, but a mere trifle to its cousin, the *Bitter Coco*.

RAT PROOF CELLAR.

The method adopted by your correspondent A. B. N., for keeping moles out of his garden, will also suffice to keep rats out of a cellar; they will dig down under the wall of a house, to a considerable distance in a straight line, but will not attempt to go round an abutment at the base or L. Yours, THOMAS AFFLECK.

Ingleside, Adams co., Miss., Nov. 30, 1843.

Idleness is the Dead Sea that swallows all virtues

PHILOSOPHY OF WOOL.—No. I.

Messrs. Editors—I propose to furnish your readers with several chapters on the subject of wool—embracing the anatominal structure of the fibre—the peculiarities which constitute its felting property, and other characteristics it possesses indispensable to its manufacture into broadcloth. From the extent to which the production of wool has already arrived in our widely extended and now once more prosperous country, and the certainty that it is destined to increase beyond the calculations of the most sanguine, it will be readily admitted by all, the subject is an important one. My attention has been directed to it, principally, from the ignorance which so generally prevails with farmers, and indeed with very many high above them in general intelligence, as to the felting principle of wool. All well know the fact, that cloth of wool, after being taken from the loom and subjected to a process of the manufacturer called *pulling*, will thicken to almost any degree desirable, by a general and uniform contraction of its dimensions. Now let the reader at once put the query to himself, what is the cause? and if he can render a philosophical solution, he may be considered an exception, not among hundreds, but thousands.

In the discussion of the subject, I beg leave to state that no claim is set up to originality; therefore, all I can claim of your readers is their thanks for imparting information difficult of access to all, condensing what I have found in many instances diffuse, and making more perspicuous what I have found in a measure obscure. The first thing deemed necessary to notice is the

STRUCTURE OF THE SKIN.

The skin of the sheep, and of animals generally, is composed of three coats, or layers. The external one is called the *cuticle* or *scarf skin*, which is exceedingly tough, devoid of feeling, and pierced by innumerable small holes, for the passage of the wool and insensble prespiration.

The next layer is termed the *mucus coat*, a soft structure, its fibres having scarcely more consistence than mucilage, and consequently separated with much difficulty from the coat below it. From the fact that the pulpy substance of this layer uniformly approximates the color of the hair, or wool, it is supposed that here resides the coloring matter. This is the seat also of sensation; the nerves, or rather their terminations, ramifying minutely in its substance.

The third or lowermost layer is the *cutis* or *true skin*, a dense firm elastic substance, in order to fit closely to the parts beneath, to yield to the various motions of the body, and the resistance of external injury. The true skin is composed almost entirely of *gelatine*, so that although it may be dissolved by much boiling, it is insoluble in water at the common temperature.

It is well known the skin of the sheep is seldom fully tanned, but is prepared in a peculiar way, and used for the common sort of binding for books, or is converted into parchment, which, from its durable nature, is used for the inscription of documents of more than ordinary value. Other uses made of the pelts of lambs in foreign countries, mention will probably be made hereafter.

ANATOMY AND CHEMICAL COMPOSITION OF WOOL.

Although the fibre of wool has been tested by severe examinations of powerful microscopes, its internal structure is not yet definitely settled—whether solid, or consisting of a hard exterior tube with a pith within. The weight of testimony, however, is much in favor of the supposition of the latter. The fact may be adduced in support of this conclusion, that a sheep when in high condition, the wool growing upon it is coarser than another whose condition is the reverse, the fibre being distended apparently from no other cause than the superabundance of secretive matter designed for its growth. Could it be otherwise were it not tubular in its conformation? It may, however, proceed from another cause, for it has been well ascertained that the fibre is vascular, being supplied with vessels which convey nourishment from the pulp, which seem to accompany it to a considerable distance from the root, if not through its whole extent. The learned Dr. Good says:—"The *Plica polonica*, a disease whose existence is doubted by some, but of the occasional occurrence of which there is abundant testimony, completely establishes the vascularity of the hair; for it is an enlargement of the bulk of the hair itself; an enlargement of the individual hairs, so much so as in some cases, to permit the passage of red blood, for the hair will bleed when divided by the scissors." Admitting it to be true that the hair is vascular, it follows that the fibre of wool is also; and hence if a sheep is in more than ordinary condition, the consequent repletion of the fluids would cause an increased bulk of the fibre, without the necessity of a tubular conformation. But I take leave of the question, with the repetition that the preponderance of testimony is in favor of the theory that the fibre is hollow.

Each fibre of wool is composed of a number of filaments or smaller hairs, ranged side by side, which cannot be perceived without difficulty, from the tendency it sometimes has to unravel at the point. Mr. Bakewell has remarked on this as follows: "Hair is frequently observed to split at its points into distinct fibres—a division has also been seen in the hair of wool. This seems to prove that they are formed of distinct long filaments uniting in one thread or hair. In large hairs I have discovered a number of divisions from the root to the point. In one hair I distinctly perceived fifteen of these divisions or fibres lying parellel to each other, and in some of the fibres a further subdivision was distinguishable. Probably these subdivisions were each composed of others still smaller, which the limited power of our instruments may prevent us from discovering. If such be the structure of the hair of some animals, it is at least probable that the hair of all others may have a similar conformation, although the fibres of which they are composed may be too minute, or adhere too firmly together to permit us to separate or distinguish them."

The fact has long since been established that the chemical composition of nails, hoofs, horns, hair, wool, and even feathers, is substantially the same. According to Henry, they are made up of an animal substance resembling coagulated albumen; and sulphur, silica, carbonate and phosphate of lime, and oxides of iron and manganese. The similarity of the odor of hoofs, horns and hair, perceptible when burned, is within the experience of all. It is also well known that the horns of cattle are made up of elongated fibres or hair, which will be obvious to any one who will take the trouble to examine with the aid of a microscope. Indeed, without this instrument, the fact can be established as exemplified in the horns of the deer, at certain stages of the growth, and also those of the giraffe, on the surface of which hairs can be distinctly traced. Other testimony may be found in the circumstance, uniformly the same, that the horns conform in the degree of their twist or curve to the hair or wool of the animals on which they respectively grow. Thus, in the Angora goat and wild sheep of the Rocky mountains, the horns are, like the hair and wool they produce, comparatively straight; while the horns of the Saxon and Merino resemble the beautiful spiral curve of their wool. The yolk, with other matters, will be considered in my next. L. A. Morrell.

Lake Ridge, Tompkins co., N. Y., Jan. 4, 1844.

PRESERVING POTATOES THROUGH WINTER.

An intelligent neighbor practices the following modes by which he rarely loses one bushel in five hundred. The potatoes are placed in a large heap on dry ground, and covered with straw in sufficient quantity to be at least one foot thick around the heap when closely packed. Three or four inches of earth are then shoveled upon it. During the mild weather of autumn, a hole is made in the top for ventilation, which is closed on the arrival of the severe frosty weather in winter. J. J. T.

BLACKWOOD'S MAGAZINE.

The New World edition of the Dec. no. is received. It is issued by J. Winchester, New World Press, No. 30 Ann st., New-York, at $2 a year in advance; *cheap enough*, for it is one of the best publications "a-going."

IMPROVED PAULAR MERINOES.

Messrs. Gaylord & Tucker—In the 10th vol. of your truly valuable paper, p. 168, after giving the prices obtained for the wool from two very superior flocks of Saxony sheep, you request other breeders of sheep to inform you of the average weight of fleeces, and the prices obtained, that the comparative profits of the different breeds may be seen. You ask me, in particular, to give you the price received for the wool of my flock.

This principle of comparison is certainly a correct one; that we should be informed of the average weight of fleeces, prices received, and in fact the entire profits of the flock, is equally desirable.

An individual may give to the public the weight of wool from one or two superior bucks, and thus convey the impression that *his* is the best and most profitable flock. Another may give the price received per lb. for his wool, without saying any thing of the weight of fleece, and in the estimation of many, *he* has the most profitable sheep. But let us do as our friends Grove and Morrell have done, and as you request others to do—give the weight of fleece of the entire flock, and the price received per lb., and it is the easiest thing imaginable for any farmer to draw a comparison, and decide which will be the most profitable for him, as an individual, to keep. In forming this decision, his location, and the nature and quality of his lands, will not be overlooked.

But to the answer of your question. I ought perhaps to say in the outset, that I had a portion of the wool, (20 fleeces,) from my flock of Paular Merinoes manufactured. For that which I sold, I received 40 cts. per lb. Now, allowing that the other fleeces should give as great a net profit as those sold, and the result will be, as the entire flock averaged 5 lbs. 5 oz., that I received $2.12½ per head. And this, you will recollect, is from a lot of breeding ewes, each of which reared a lamb, and yearling bucks and ewes, with the exception of one stock buck.

It may not be unacceptable to add an account of the profits of my little flock for one year. I find by reference to my book in which I keep an accurate account of all my sheep transactions, that I had on hand on the 1st Nov. 1842, 103 sheep. On hand Nov. 1st, 1843, 128 sheep, which is, as you will perceive, an increase of about 25 per cent above all sold and all losses. I have received in addition to this,

In wool,......................	$191.80
In bucks sold,.................	372.00
	$563.80

Now, gentlemen, I know not but other flocks are better and more profitable. I will only say that I have endeavored to improve my flock since I commenced with them, and think I have succeeded in some degree at least; and am desirous that they should stand upon their own merits. I will also add, that an extensive wool grower, of the denomination of Friends, after having examined them with much care, a short time since, said, (to use his own plain language,) "Thee ought to call thy flock the *Improved* Paular Merinoes." I have no objections to this addition, and if after the several accounts which you have had of this flock, you do not think it assuming too much, you will please place as a caption to this communication, "Improved Paular Merinoes." Truly yours, R. A. Avery.

Galway, Saratoga co., N. Y., Dec. 20, 1843.

SALT FOR CUT WORMS.

Salt has been repeatedly recommended in many of the agricultural papers as an infallible repeller of the cut worm. I have tried only one experiment, which is al follows: Cabbage plants were encircled a few inches from the stem, with a ring of salt about an inch wide and quarter of an inch thick; in other cases the salt was thickly strewed about them and in contact with the stems. In neither case, the cut worms paid the least regard to the salt, but walked right through it and destroyed the plants. In one instance, a cut worm was found after having eaten off a plant, quietly reposing with all the apparent ease and indifference of a philosopher, in a white bed of nearly clean salt.

The best remedy appears to be the application of a roll of paper around the stems when the plants are set out, extending one inch above the surface, and three or four below. A burdock leaf wound round the stem, will answer the same purpose where cultivators are so fortunate as to have this plant on their grounds. J. J. T.

THE CARROT.

Messrs. Gaylord & Tucker—The improvements in the ancient and honorable art of agriculture in New England, within the last quarter of a century, are truly obvious, and particularly for the last few years it has become a subject of interesting contemplation to every lover of his country.

Though the writer is desirous to contribute his mite to the laudable object of the pursuit of agriculture, it is because it is so intimately connected with the interest and well being of his country and the community. Within the last few years the cultivation of the carrot has engrossed a greater share of his attention than that of any other vegetable. If then the few ideas which are hastily thrown together upon this subject, shall ultimately lead to the best method of cultivating this valuable and nutritious root, he will be richly rewarded for whatever pains he may have taken in observing and superintending its growth. We are satisfied from experience that this plant may be brought to great perfection in any part of New England, and with suitable attention will abundantly remunerate the husbandman for all his necessary care and labor. Were our farmers who keep a large stock, to devote a spare acre to the cultivation of this root, we make no doubt they will at the harvest, find themselves in possession of a large store of feed of valuable and rare qualities for sheep, horses, and cattle, which will save largely of hay and other fodder, in times of scarcity of such crops. The three varieties of carrot that constitute the subject of these observations, are the long yellow, the large field, and the Albringham white. Scarcely any vegetable during its growth presents a richer appearance than the carrot, whether we contemplate the yonng plant or the mature root. Hence it may be said in truth, to be an ornamental as well as profitable crop.

For the table, the long yellow is preferable. Its surface is smooth and fibre very compact. In proportion to its size, it doubtless yields the greatest amount of nutriment. Next to this is the large field variety, on which the horse feeds and thrives well, and it gives to the hair a peculiar smooth and glossy appearance. This root is short and rough, often sending off large radieles or branches of roots. When it grows luxuriantly, it is frequently hollow at the upper part. It yields a larger crop than the former, but is better adapted to stock than the table. The Altringham white is a long beautiful root, much less nutritious than either of the other varieties, and resembles some of the finest specimens of the long white turnep. It is a hardy plant, requiring less care in its cultivation than the other varieties. Stock feed and thrive well upon it.

The soil best adapted to the carrot, is a deep rich loam, free from gravel or sand. If it be too adhesive or lumpy, ashes or lime may be mixed with it. If manure be used, it should be entirely decomposed or rotted, and intimately mixed with the earth. The ground should be plowed or spaded fine and deep, the whole being made mellow.

The seed should be planted early in April, in drills not less than 22 inches apart. When the plants spring up, they should be early freed from weeds and the earth loosened around them. The feeble plants should be pulled, leaving only the most hardy ones. At the second weeding they should be thinned again, leaving the most healthy to grow, and thus continue, leaving the most thrifty ones not less than 20 inches apart, so as to give large room for the tops. In this manner, the writer has raised the yellow carrot no less than 7 inches through, and at the rate probably of 600 or 700 bushels to the acre.

Middletown, Ct., Dec. 23, 1843. M.

FARM LANDS OF VIRGINIA.

THE call of our Orange Co. correspondent in the Dec. no., has brought us the following: "*A Virginia Farmer*," who dates from Lynchburg, says:

"The most desirable part of Virginia, as it regards health, original fertility of soil, and cheapness of price in proportion to its value, is the vein of red land called the Piedmont region, and embracing the counties of Orange, Albemarle, Nelson, Amherst, and Bedford. It is a belt of land from fifteen to twenty-five miles wide, east of the Blue Ridge mountains. The rocks are all primitive, consisting of quartz, sandstone, &c. with occasional beds of granite. It is that region of country in which the finest Virginia tobacco has been raised. The soil is generally red, with occasional changes to grey or sandy. The growth upon it is white and red oak, hickory, poplar, ash, dogwood, and very rarely pine. It is admirably adapted to the growth of clover, and gypsum produces a powerful effect upon it. The lands when improved produce fine wheat, Indian corn, tobacco and oats, as well as garden esculents and fruits. As you advance from the lower part of this region of country to the counties of Nelson, Amherst and Bedford, the lands become cheaper in proportion to their quality. In Amherst and Bedford counties, great advantages will be derived from the James river and Kenawha canal, which is now in operation as far as the town of Lynchburg, and within about 20 miles of the Blue ridge. It will be soon carried through the mountain. The lands have been generally cleared for the cultivation of tobacco, and are in a state to be improved by judicious farming. Lynchburg furnishes a ready market for the products of Amherst and Bedford counties. The schools are such as are generally found in Virginia. A teacher is generally engaged in every neighborhood, and churches of the different denominations of christains may be found at convenient distances. It will not be necessary to bring stock of any kind, or farming utensils, or furniture, if the farmers wish to settle in Amherst or Bedford. In the other parts of the Piedmont region, the writer is not so well acquainted. The cheapness and facility of getting the products of the farm by water carriage, give to those two counties a decided advantage over the other counties. The prices of land in this region, vary from five to fifteen dollars per acre, according to quality and improvements. The best course to be pursued by persons wishing to purchase land in this region of country, would be to send an agent to examine the country. To examine the northern part of this region, the agent would pass from Alexandria in the District of Columbia, through the counties of Fairfax, Fauquier, Madison and Culpepper, to Orange and Albemarle. To examine the other counties along the line of James river, he would pass through Richmond, and with the packet or steamboat go to Lynchburg, where he could pass into the counties of Bedford, Amherst and Nelson. The land is generally in a bad state of cultivation, but is susceptible with judicious management, of the highest improvement. Being neither a land seller nor buyer, the writer has written this for no other purpose than to answer the inquiries in the Cultivator."

Mr. NATHAN LOOMIS, who moved from the Mohawk Valley to Fairfax co. (Va.) two years since, after stating the condition of churches and schools, and some other matters for which we have not room, says:

"I believe it is a pretty general opinion at the north, that the land here was originally very poor, and that it has been starved out—exhausted. Such opinion is erroneous. Fair crops of tobacco, wheat, corn and oats, have been produced on the poorest land in Fairfax. That constant cropping without applying manure, will deteriorate land in a long series of years is most true; should any one want proof of this, let him examine this county and be convinced. Its fertility has been impaired, but not exhausted. Reduced soil may be easily improved so as to equal its original fertility. The like examination will establish this fact. A large portion of the land in this county has been thrown out to commons, which produces a vigorous growth of sedge; or when sufficient time has elapsed, the sedge is supplanted by pines of rapid growth. The sedge makes a thick strong turf. It requires a stout pair of horses to break it up, and it should lie a year after being well turned over before it is cross plowed. I have cross plowed some six months after turning over; but this checks decomposition, the exposed roots become dry and strong, and are slow to decay. Clover and timothy take, even without manure of any sort. Plaster and lime operate finely. Nova Scotia plaster is had in Georgetown, D. C. 15 miles from this place, ready for use, at $5\frac{1}{2}$ per ton. I need not say any thing of such portions of plantations as have been continued in cultivation, and from which people obtain their support and produce for market; nor of the unbroken forests of oak, hickory, chestnut, &c. which remain in large parcels. People will examine before they purchase. I suppose the inquiries were made to learn whether it is worth the while to make the examination. The price of land varies from $3 to $12 or $15 per acre."

Another correspondent, who resides four miles from Mount Vernon, says:—"The sandy or loamy land upon or near navigable water, is cheap, and well watered, and capable of high and rapid improvement. Oyster shells or lime can be had in any quantity. 150 bushels of lime, 2 gallons of clover seed, and 2 bushels of plaster, will more than restore pristine fertility. Churches are plenty, but the preachers badly paid. Schools can be made in any neighborhood, and to the taste of those who pay the teacher. Every article a farmer can want may be purchased in Alexandria. Horses, cows, sheep and hogs are plenty, and not inferior to any in New-York, that are not better fed. Sheep do well without feed, save when snow covers the ground. Horses, cows, sheep and hogs have more extensive liberty than man, for they range over the whole state, save the enclosures that are five feet high, and so close that the animal trespassing cannot creep through."

LIEBIG'S FAMILIAR LETTERS ON CHEMISTRY

EDITORS OF THE CULTIVATOR—In the latter part of Nov. ult. while in the commercial metropolis of our state, I visited the large book establishment of Wiley & Putnam, and gave you a hasty sketch of an examination of their long catalogue of agricultural and other books.[*]

It is now intended to present some remarks on one of the books brought with me at that time, from that great mart of modern literature and science. It is a recent publication, and strongly recommends itself to the attention and perusal of the farmer and his sons during the reign of winter evenings. Since the nights have lengthened and the field labors closed, I have read it with profit and delight, and I feel assured that other cultivators of the soil, both young and old, will reap benefit by following suit. The book is small and cheap and good. If the reader do not understand all that its pages contain, it will nevertheless cause him to reflect, to think deeply, and to inquire what he knows concerning the condition of agriculture in his neighborhood, its susceptibility and means of improvement. "To think," says a medical author, "is to theorise." Therefore he who thinks and acts, puts theory in practice. We are all more or less theorists, whether we be of the Knickerbocker stamp, obstinate and unchangeable, and haters of book farming; or whether we yield to the impulse of the times and seek for improvement with the advance of the arts and sciences. The old fashioned unchanged farmer, thinks and theorises upon the ancient method of his forefathers, and determines that method to be the only true and correct one. He is unwilling to read, to study, or be instructed in the art he has long practiced. Dr. Rush[*] says that persons in a state of derangement often reason correctly, but upon false premises. So some of the old farmers are like monomaniacs, so set in their own way that they think agriculture requires no aid from books or periodicals, and that it requires no alteration or improvement. Let us then call upon the young to read and to study the *science* as well as the *art* of agriculture.

Here then is one of the books for them. It is entitled "*Familiar Letters on Chemistry, and its relation to Com-*

---

[*] This "hasty sketch" has never been received.—EDS.

[†] Rush on Diseases of the Mind.

merce, Phisiology and Agriculture. By Justus Liebig, M. D. Professor, &c." This is a late work of the celebrated author of "Organic Chemistry in its applications to Agriculture and Physiology," so often spoken of with deserved praise in the pages of the Cultivator.

These letters are sixteen in number, and we recommend them to attentive perusal. They are contained in a small duodecimo volume of 170 pages, price twelve and a half cents, or bound in boards 25 cents. Cheap enough in all conscience.

"The letters contained in this little volume," says the author, "embrace some of the most important points of the science of chemistry, in their application to natural philosophy, physiology, agriculture and commerce. Some of them treat of subjects which have already been, or will hereafter be, more fully discussed in my larger works. They were intended to be mere sketches, and were written for the especial purpose of exciting the attention of governments, and an enlightened public, to the necessity of establishing schools of chemistry, and of promoting, by every means, the study of a science so intimately connected with the arts, pursuits, and social well-being of modern civilized nations."

"For my own part, I do not scruple to avow the conviction, that ere long a knowledge of the principal truths of chemistry will be expected in every educated man, and that it will be as necessary to the statesman and political economist, and the *practical agriculturist*, as it is already indispensable to the physician and manufacturer."

"In Germany, such of these letters as have been already published, have not failed to produce some of the results anticipated. New professorships have been established in the Universities of Gottingen and Wurtzburg, for the express purpose of facilitating the application of chemical truths to the practical arts of life, and of following up the new line of investigation and research—the bearing of chemistry upon physiology, medicine and agriculture,—which may be said to be only just begun."

"It only remains for me to add a hope that this little offering may serve to make new friends to our beautiful and useful science, and be a remembrancer to those old friends who have for many years past, taken a lively interest in all my labors. [Part of author's preface, p. 6.]

These interesting and readable letters of Liebig contain a continued argument in favor of the application of chemistry to the arts. Among them are some strong and striking illustrations which we would be glad to extract, but we must confine our observations to the agricultural part.

"Agriculture is both a *science* and an *art*. The knowledge of all the conditions of the life of vegetables, the origin of their elements, and the sources of their nourishment, *forms its scientific basis.*"

"From this knowledge we derive certain rules for the exercise of the *art*, the principles upon which *the mechanical operations of farming depend*, the usefulness or necessity of these for preparing the soil to support the growth of plants, and for removing every obnoxious influence." [Letter 12th, p. 125.]

The remainder of this letter treats of the "Necessity of Chemistry, Rationale of Agricultural Processes, Washing for Gold." It concludes with a happy illustration of sowing or planting, and reaping for a series of years without manure, until crops fail, as in certain cases the washers for gold, eager to get all, wash and rewash the same sands, obtaining less every time, until they realize nothing to compensate for their labor.

The 13th letter treats of the illustration of the necessity of chemistry to advance and perfect agriculture—Manner in which fallow ameliorates the soil—Uses of lime —Effects of burning—Of marl.

On the action of lime we make the following extract:

"Common potter's clay, or pipe clay, diffused through water, and added to milk of lime, thickens immediately upon mixing; and if the mixture is kept for some months, and then treated with acid, the clay becomes gelatinous, which it would not have done without the admixture with the lime. The lime in combining with the elements of the clay liquifies it; and what is more remarkable, liberates the greater part of its alkalies. These interesting facts were first observed by Fuchs, at Munich; they have not only led to a more intimate knowledge of the nature and properties of the hydraulic cements, *but what is far more important, they explain the effects of caustic lime upon the soil, and guide the agriculturist in the application of an invaluable means of opening it, and setting free its alkalies*—substances so important, nay, so indispensable to his crops."

"In the month of October, the fields of Yorkshire and Oxfordshire, (in England,) look as if they were covered with snow. Whole square miles are seen whitened over with quick lime, which during the moist winter months, exercises its beneficial influence upon the stiff clayey soil of those counties."

"According to the humus theory, quick lime ought to exert the most noxious influence upon the soil, because oll organic matters contained in it are destroyed by it, (the lime,) and rendered incapable of yielding their humus to a new vegetation. The facts are indeed directly contrary to this now abandoned theory; the fertility of the soil is increased by the lime." (Page 136.]

We had marked several other pages for notice or extracts, but our space is limited and we must hasten to a conclusion, again recommending it to young farmers, hoping they may receive as much pleasure as the writer has in its perusal. A Practical Farmer.

Staten Island, Dec. 23, 1843.

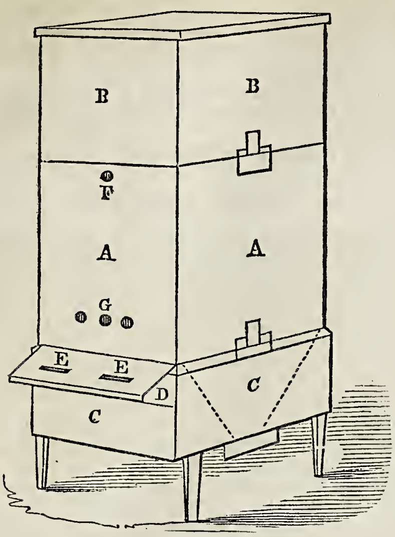
THE VERMONT STUMP MACHINE.

Messrs. Gaylord & Tucker—As your correspondent "M. A." cannot understand so simple a machine for stump pulling as the one of which I sent you an account, I hope in this article to explain his difficulties. When I wrote you first, I was building a machine on a small scale; wheel 12 feet in diameter, height 8 feet, breadth 10 feet; calculated for two horses to work among small hard wood stumps, which had been cut 4 years. I have had it in operation a good while, and I assure you it beat my expectations. If "M. A." is going to build one, let his shaft be the stiffest and toughest stick of second growth white oak that he can get; let the gudgeon fit the hole in the post as exactly as possible, consistently with its turning freely, and at the foot of the posts, instead of "firmly morticing them into the sills," let the tennon be round, about 4 inches in diameter, and not pinned; the weight will keep it in its place. This will allow the post to turn a little on the sill, and thus keep it from splitting, and the gudgeon from breaking. He must also have two good iron bands around the top of each post, one above and one below the gudgeon, and the same on the end of each gudgeon outside the posts. In drawing a stump, your machine must be directly over it, so that the chains will draw plumb. If there is any elevation or unevenness in the ground, *have the same end of both sills raised or lowered alike, and never one sill higher than the other.* He must have a notch in the outside of the posts, about 7 feet from the ground, and if a little cramping is unavoidable, let him put a pole or rail with one end stuck in the ground, and the other in this notch. He must not use frisky cattle at moving the machine, for if one team should stop and the other keep on, some mischief would follow. The machine of which I sent a description, at first sight seemed to me to be the most rickety shackling old concern I ever *did* see. Its creaking could be heard a mile; it swayed over from one side to the other with great violence. The wheel was crooked and twisted out of shape, and it would stand as much cramping, twisting and straining as any thing I ever saw. Yet it would raise a weight of 100 tons, and stand all that three yoke of cattle could draw. If "M. A." intends to build a machine, and follows my directions to the letter, I will warrant him a good, substantial and effective implement, which will neither "crush to the ground" nor "split in the post." It will not work, however, on a side hill, but only on level ground and gentle declivity.

H. T. C.

Burlington, Vt., Dec. 11, 1843.

N. B. If "M. A." or any one else, builds a machine, I should like to be informed of their success through your columns.



BEE HIVE.—(Fig. 20.)

Messrs. Gaylord & Tucker—I send you a plan and description of a bee hive which I have constructed during the past season, and which I conceive possesses some advantages over any I have seen. If any others are of like opinion, they are at liberty to use it. It may be used as a chamber hive, or on the subtended plan, at the pleasure of the apiarian.

A. A.—Body of the hive 16 inches square on the outside, and 12 inches high, made of inch boards.

B. B.—Upper apartment, 8 inches high. This may be made separate from the lower part, as in the figure, or both posts may be made together, as in the Vermont and other chambered hives.

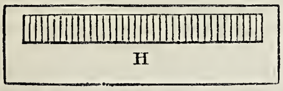
C. C.—Base or protector, 6 inches high, and 17½ inches square; the part projecting beyond the hive, being sloped off to prevent water from running under the hive; made of 1¼ inch boards.

D.—Lighting stool for the bees.

E. E.—Entrances for the bees, 2 inches wide and one quarter of an inch high.

F.—Ventilator immediately under the chamber floor, to permit the escape of impure air, and cause a slight but regular current of air through the hive. This hole must be covered with a wire screen.

G.—Holes to correspond with holes in the feeding box, which may be hung on the front of the hive when it is necessary to feed the swarm. These must be kept closed at all other times.



H.—Screen to slide in a groove under the protector. The spaces between the wires one-tenth of an inch.

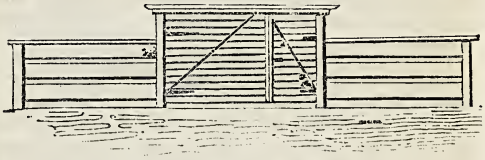
In the inside of the protector are two inclined planes meeting within 1½ inches at the bottom, leaving an open space to correspond with the open part of the screen, (H.) This position of the inclined planes is represented by the dotted lines in the figure. This opening may be entirely or partially closed by the screen board, or the board may be entirely withdrawn, so that the dead bees, &c. may fall out. As soon, however, as the season for the moth arrives, and till he disappears in the fall, the screen should be used as a barrier to prevent her entrance. A strong swarm will keep the entrance in front so guarded that the moth will seldom gain admittance there, and if she does enter, every part of the hive being planed smooth, the joints all perfectly closed, and the inside of the protector well whitewashed with lime and salt, she will find no place to deposit her eggs unless there be some exposed comb, which should always be guarded against. The body of the hive, chamber and base, should be dovetailed together, and nailed each way, and the lower edge of the hive should be chamfered off on the inside to half an inch thick.

Boxes of any shape or size may be put in the chamber, having apertures to correspond with those in the chamber floor; or when the hive is filled it may be raised and another set under it, as in the common subtended hive. As the bees enter about 1½ inch below the body of the hive, they pass through a canal 3 or 4 inches long, before they are fairly within the hive. This gives them complete power to defend themselves against robbers, as well as the moth. Ants may be kept from the hive by strewing a little pearlash around the feet, or they may stand in shallow vessels containing the pearlash.

The above plan furnishes as complete protection to the bees against all their enemies as could be desired, at the same time it furnishes as complete facilities for removing honey, &c. as any other hive. Objection will probably be made that it is too expensive. It is true, that a *good* hive cannot be made for much less than $2; but as it will last an age, and as a good swarm in a single year will commonly make surplus honey to pay for the hive, it will be cheap in the end. P.

Bowling Green, Wood co., O., 1843.

N. B. In my drawing I have set the feet on the front and rear of the base; they should be on the ends, so as not to interfere with the screen, which should slide in from the backside.



A GATE.—(Fig. 21.)

Messrs. Gaylord & Tucker—Having noticed in the Cultivator several models for gates, it occured to me whether the gate I have just finished at the entrance of my grounds near my house, might not furnish some new hints for you. I have given a very awkward sketch of it below, from which perhaps you may understand that the large gate, when shut, so rests upon the posts at each end, as to render it impossible for it ever to sag. So when open, it rests upon a short post in the ground.

The small gate, you perceive, hangs upon the high post, and shuts against the upright edge of the large gate, and swings in such a manner that the top piece of the large gate will swing over it. It will be found that the two gates will interfere least with each other, if they should be made to swing different ways. The gate should be finished whole, and then sawed off; the right hand post on one side horizontal half through, and on the other side on a slant, so that the gate will easily rise and rest on the post, by slightly lifting it as it is shut.

Springfield, Mass., 1843. J. Willard.

POUDRETTE.

The expediency of using any of the compositions which are sold for manure, depends on circumstances which the farmer should always consider. Mr. Breck, of the N. E. Farmer, says he has used within the last two years, 75 to 100 barrels of poudrette. He says that where good stable dung can be had at three dollars per cord, it is no object to buy poudrette at present prices. He does not hesitate to say that it is excellent for corn, *provided* about half the usual quantity of green manure is plowed in in the spring, and the corn planted on the poudrette. The corn takes a vigorous start, and before the virtue of the poudrette is exhausted, the decomposition of the green manure begins to take place, and affords nourishment for the numerous roots which are greatly multiplied by the action of the poudrette. If the ground is not in good heart, Mr. B. says the action of the poudrette alone is not sufficient to mature a good crop, although it may give a very flattering appearance in the *first* part of the season.

HEREFORDS AS MILKERS.

MESSRS. GAYLORD & TUCKER—Probably you will say I am too frequently addressing you on the subject of Herefords; but you are aware of the prejudice I have had to contend with against a combination of some Short Horn breeders, to a solitary individual breeder of Herefords. My stock heretofore have not been in a situation for criticism, but I think they are now just what cattle should be. I state this with *"feeling pride"* and *without vanity*. I am highly gratified with the breed, and have not the slightest wish to exchange for any other.

Much has been said against their milking properties *without the least foundation*. I do not desire better cows for the pail than the eight just calved; one does not vary a quart more than another. The following is a statement of the butter made, and I am feeding their calves on the *skim milk*.

I do not know a better mode of bringing these facts before the public in the most satisfactory manner, than in requesting their strongest opponents to see and judge for themselves, and give them, *impartially, their just due*. Therefore I beg to say through your paper, that I shall be most happy to invite Messrs. Randall and Hepburn to stay a week with me, or as much longer as their convenience will allow—my cows and dairy shall be open to their inspection. If the Hon. Henry Clay will accompany them, or any other breeder, not forgetting my cotemporary Mr. Thos. Thompson, Prospect Farm, Pa., I will endeavor to entertain them, with farmer's fare, a *pitcher* of " home brewed," and assure you with a hearty welcome.

I have been very much *amused*, (some would say annoyed, but to me it did not amount to the latter,) ever since I brought this breed of cattle into the country. I have had *letters without number, inquiring* the *price* of a bull, or a pair, &c. and without *paying the postage;* to which I replied, and there ended the correspondence. Six calves out of the eight abovementioned, were bulls, and six better bred ones could not be produced; I have kept my determination and made steers of them. I have now two two year old bulls and two yearlings for sale; the price will vary from $150 to $250, and if I cannot obtain that amount, I will make *" stags"* of them, therefore your readers know as much about the *price* as if they wrote me *twenty letters*. It is not my object to accumulate a fortune out of this business. I care as little for wealth as any man; but I feel assured my stock will in due time cancel the obligations I am under to my friends and supporters, which is my greatest care and anxiety. More than that, it has kept my *mind active*, and my *hands employed*, two of the greatest blessings; and I am happy to see my stock in such a situation to suit my purpose. The *butcher* and the butter market will do all I want.

I have just commenced feeding *Eliza*, my only half bred cow, (half Short Horn and half Hereford,) and I will show her at the next Fair, but not for a premium, so that the public may be able to judge what the half breed will do for the stall. She was an excellent milker, probably as good as any cow in the herd. I shall milk this season, twenty-three full blood cows and heifers, and I have now on hand just sixty of all ages, bulls, cows, steers, heifers and calves, and shall have fifteen more calves before the 1st of May, if all goes well.

I am feeding my cows on the fodder of Indian corn, from a crop sown broadcast, cut fine with a machine, with one feeding of hay at night, and half a bushel of brewer's grains (cost 6 cts. per bushel,) to each cow per day. I submit a statement of the amount of butter made from the 5th to the 11th of Jan. We had the milk of

Lucy, 4 yrs. old, calved Nov. 28,	7 days.
Martha, 8 yrs. old, calved Dec. 28,	7
Catharine, 4 yrs. old, calved Jan. 2,	7
Victoria, 4 yrs. old, calved Jan. 4,	5
Spot, 4 yrs. old, calved Jan. 4,	5
Perfection, 4 yrs. old, calved Jan. 4,	5
Matilda, 3 yrs. old, calved Jan. 7,	2

Equal to the milk of one cow 38 days, and we had 48¼ pounds of butter, *weighed in separate pounds*. Had it been weighed at once, the aggregate would have been some greater; but this gives as an average, a fraction *over eight pounds per week for each cow*. The statement is a literal transcript from Mrs. Sheldrick's *dairy book*, and can be duly attested. I send you a roll of the butter as a specimen of its quality.*

It is proper to say that when I bought this stock in England, I *never asked a question* about their milking properties. WM. H. SOTHAM.

Hereford Hall, near Albany, Jan. 10, 1844.

SHEEP HUSBANDRY.

MESSRS. EDITORS—I noticed in your December no. that my views heretofore expressed about the feasibility of cultivating sheep on the western prairies, has waked up, among others, our friend ROBINSON of Illinois. I am glad to see him in the field again, and hope he may have all the success he anticipates in growing wool. Our Vermonters yet remain firm, and cannot be persuaded to give up the ship yet awhile to western competition. We remain of the opinion that no country is better adapted than ours for sheep. If there is a falling off, it must be in the price of our farms; all things considered we can grow wool as cheap as our western brethren.

I also noticed in the Jan. no. a communication from H. S. Randall, Esq. on Paular Merinoes, that he had introduced my flock to the public. It will be proper to state that " Fortune" was bred by Tyler Stickney. He was got by a Jarvis buck, but his qualities partook more of the superior ewe from which he was dropped, a pure descendant of the Col. Humphrey importation in 1810. She died at the age of about sixteen years; her fleeces, when in her prime, averaged over seven and a half lbs. of cleansed wool; very prolific and hardy, which is one qualification of this breed, and may be shown by her raising a lamb this last season. By her wool, and form also, every mark of the Paular family was fully developed. The price I paid Mr. Wilson for the buck, is correct; I also purchased all of Fortune's stock that could be had at any reasonable price. These, with what I have raised from his getting, I have been able to supply many orders to the satisfaction of those who now have them.

I have seen an article in one of our papers, ridiculing the idea advanced by the Cultivator, " that the age of sheep may be known by the horns." That statement in the Cultivator is correct. The ring on the horns will tell the true age much better than it can be known by the teeth. S. W. JEWETT.

Weybridge, Vt., Jan. 8, 1844.

WHEAT vs. CHESS.

MESSRS. EDITORS—While I rejoice at every advance in the practice or the science of agriculture, I experience a proportionate regret at every retrograde movement, or inculcation of error, especially if made in an imposing form, or coming from a source from which farmers have a right to expect better things. Without intending to open anew the chess controversy, which can only be permanently settled by the farmer adopting the same course with that weed which he pursues with other pests, viz: sowing no seed of chess, and carefully pulling and eradicating all such as may accidentally appear, I wish permission to express my surprise at finding in R. L. Allen, late one of the editors of the " Agriculturist," and a frequent contributor to that journal, a strenuous advocate of that exploded heresy. In that paper for November, is an article insisting that wheat turns to chess, and presenting what he calls an array of facts to confirm his position. Now there is not one of the " facts" there presented which is not evidently founded on mistake, or which is not capable of an easy solution, on principles that do not involve an absurdity, or a contravention of the well known laws of nature. There is not one of them that has not been conclusively refuted again and again; and any person, who after reading the papers of David Thomas and others, in the old Genesee Farmer, will revive, and endeavor to sustain such a pernicious doctrine in agriculture, cannot, I think, have well considered the downward tendencies of error. It is certainly a most curious "fact," that if the theory of transmutation is correct, not a single instance has yet been adduced, not a single specimen has been exhibited, that would stand the test of a rigid scrutiny. If the doctrine that wheat turns to chess is well founded, it is one of which thousands of illustrations are presented every year, and yet strange to tell, of the multitudes of stories told and facts asserted, not one, no not a solitary one, has passed that ordeal of investigation to which all such matters should be subjected, without having its fallacy and unsoundness so exposed as to put to the blush those who have presented them. How many roots from which both wheat and chess are said to have grown have been shown; how many ears of wheat of which part were wheat and part chess, have been exhibited or reported, yet which thorough examination showed furnished as little support to the theory of transmutation, as any other stuff that dreams are made of. But I do not so much object to this theory on account of its palpable unsoundness, its contravention of the known laws that govern vegetation, and its direct contradiction of inspiration, as on account of the bad effects it must have on the farming of all who embrace it. If I believe that wheat will turn to chess, cockle, or steinkrout, what inducement have I to keep fields free from these pests; what advantage in endeavoring to use none but clean seed? I condemn the doctrine as a premium for slovenly farming; as a theory which if fully carried out, would do more to lessen the prosperity of western New-York, reduce her wheat crops, and destroy their value, than her worst enemy could in any other way devise. I repeat I am sorry that a gentleman so well known and so much respected as Mr. Allen, should have made such an "advance backward," and been found among the supporters of what I consider an agricultural heresy of the first magnitude.

---

* The sample sent is in *appearance* (we have not yet tried it,) *fine*, the color and consistence being as good as that made in June or September.—EDS.

A Cayuga Farmer.

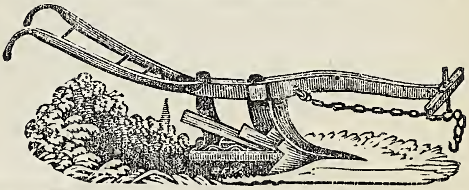
"FIRST YEAR AT FARMING."

From a correspondent who signs "Marion," Ohio, we have received a letter, detailing at some length the experience of his "first year at farming;" from which we give the following extract:

"My farm is a rich vegetable soil of over 2 feet in depth. I spread on about three acres of it 54 loads of stable manure (well filled with timothy seed) last spring, and harrowed it in; but I cannot see that the manure has added to the richness of the soil: a stranger could not point out the three acres. Where I put manure on the woodland it did well. Growth, oak and hickory; stiff soil, and after going 3 to 5 feet in depth underlaid with great thickness of lime stone; (so with the prairie.) Quere—Is not the lime stone too deep to benefit the crops? The strippings of my quarry nearest the rock, when exposed to the air soon falls, lays light, and effervesces when tried with acids. Would this pay expenses of applying it to crops, either on wood land or prairie? I can make lime for 6 cents a bushel, and can get stable manure delivered, at 31 cents a load. Which is cheapest and best? Will fresh lime from the kiln, put on prairie in its natural state, 40 to 50 bushels per acre, kill out the wild grasses and weeds, and bring it into timothy and white clover? I have got up and sold about 1600 perch of limestone this season. The spalls and offal I throw into a kiln, and in 48 hours burn near 400 bushels lime. The village, near by, can furnish 300 to 500 loads manure for the hauling cost of 25 to 31 cents per load; but I do not see that it benefits the prairie at all. I can and will make lime if you think it advisable. I have 250 acres enclosed. The prairie furnishes good pasture, and plenty of stock offers on pasturage."

We have no doubt that one reason, and perhaps the greatest one, why the manure did not operate favorably on the prairie, is, that the land is too wet—and this, we think it probable, accounts for the different effect produced on the timber-land, that being drier and warmer. On very wet and cold lands, manures lie latent or inactive.

As it regards the expediency of using lime, we would say, *make the experiment*—for where lime can be made as low as *six cents* a bushel, not much risk or expense is incurred, surely—and the result may indicate the proper course for the future. After all that has been said about lime, we consider its *modus operandi* not well understood, and we should decidedly prefer being guided by *experience* rather than *theory*. We should, however, be strongly inclined to the opinion, that either lime, or the decomposing lime-stone, would tend to ameliorate the soil described by our correspondent. We dare say his good judgment will soon teach him whether it will be most profitable to use lime or stable manures, or in what proportions he had better use each. The fact that the manure can be had for the *hauling*, and that it will only cost 25 to 31 cents a load when delivered on the ground, is important. There are many other situations in the west, where manure may be had in any quantity, on as low terms as is here mentioned, and in using manures, or making experiments on new ones, this matter should be borne in mind. In conclusion, we presume "Marion" has only to take care to drain off the surplus water from his lands, both by ditching and opening and rendering more loose the sub-soil, and using the means which seem to be readily at hand for improvement, to make himself a farm to his liking.



RUGGLES, NOURSE & MASON'S SUB-SOIL PLOW.

Messrs. Editors—We take the liberty to forward you a cut of the sub-soil plow, as now made by us. This plow is generally used to follow in the furrow of the common plow, breaking and crumbling the sub-soil to any desirable depth, by raising it gradually upon the incline plane, and dropping it again in its place, which allows roots to penetrate deeper, and in very retentive soils, or in wet seasons, the surplus waters will readily pass downwards, and on lands where vegetation is likely to suffer from drouth, by thus loosening the sub-soil admits the natural moisture to ascend and become useful to vegetation.

In ——, at the suggestion of many eminent farmers, we imported from Edinburg in Scotland, one of Smith's Deanston Sub-soil Plows, at an expense of $80—that being the kind most approved and used in England and Scotland. That we believe to be the only plow of the kind ever brought to this country. It was made wholly of iron except the upper end of the handles, and being very long, heavy and complicated in its construction, it was expensive much beyond what the agriculturists of our country would believe necessary, or think they could generally afford. Since that time, we have been testing their operation and utility, through the farmers in different sections of the country, and find their effects to be most beneficial, equal even to the expectations of the most sanguine—and the demand fast increasing. We have so modified and simplified its construction, yet retaining all the principles and adding some important improvements, that we afford a plow for $15, that is capable of doing the same and as good work as the original, and with the improvements, they are better adapted to be used in different soils requiring different depths. They were originally intended only to follow the common plow, but as made by us they have been successfully used in grass lands without first using the common plow, breaking the sub-soil without turning up the sward, and without disturbing it more than was beneficial. (See advertisement.)

Ruggles, Nourse & Mason.

Large Fleece.—Mr. Samuel Patterson, of Murfreesboro, Tenn., informs us that he sheared from a two year old Bakewell buck, from the importation of Jas. E. Letton of Kentucky, fifteen and a quarter pounds of wool, free from burs.

CULTURE OF FRUIT.—No. II.

GRAFTING.

One of the most important operations in the culture of fruit trees, is the propagation of varieties by *budding* and *grafting*. By means of these we exchange the unpalatable fruit of the wilding for the most delicious productions which art and nature combined have been able to furnish. And there are few gardens or orchards which might not be greatly improved by the introduction of the best varieties, the cultivation and care of which cost no more than that of the most worthless.

Budding and grafting have their respective advantages and disadvantages. Budding requires less skill and care, but needs the subsequent attention of removing the ligatures, and heading down the stocks. Grafting does not need this subsequent care, but more skill is requisite in the operation. The peach and nectarine can rarely if ever be propagated by grafting; and budding cannot be performed on large and unthrifty stocks, which may often be successfully grafted.

Books on gardening describe many different modes of grafting; but the multiplicity of these often more bewilder the learner than instruct him. By understanding the *essential* requisites, the operation is at once simplified, and it may be varied at pleasure without danger of failure. The two chief points are, *that the sap flowing upward through the stock pass freely into the graft, and that it returns without interruption from the inner bark of the stock.* To secure these both the wood and bark in the stock and graft, must be so cut as to admit of being placed in close contact, and when so placed, the line of separation between the bark and wood should, on one side at least, exactly coincide in both.

The most common and useful modes are the *whip* and *cleft grafting*. Whip grafting is adopted where the stock and graft are of nearly equal size. To perform it, the stock and graft are cut off obliquely with an equal degree of slope, so as to leave two smooth straight surfaces which may be brought into close contact. A transverse cleft with the knife is to be made near the middle of each of these surfaces about one-third of an inch deep, so that when they are pressed together, the tongue and slit thus made in each, may mutually and firmly interlock. It is then usual to bind them to their place with bass or corn husk; but it is better to have the jaws of the cleft in each so firmly pressed together as to render this unnecessary. The whole is then to be closely wrapped in a grafting plaster.

Where the stock is more than half an inch an diameter, cleft grafting is preferable. The stock is first cut off horizontally, and a split made in it at the middle of the cut surface an inch or two in depth; in this the graft, cut wedge-like, is inserted. To do it properly, it is requisite that the graft be so cut as to fit the split as nearly as possible, which is to be opened by a wedge on the side opposite from the place for the graft, and that the jaws of the stock be strong enough to press the sides firmly and closely. After this, the plaster is applied.

It is convenient, in grafting, to have two knives, one chiefly for cutting, and the other very sharp, for smoothing the surfaces for contact.

All the branches and buds on the stock, must be carefully removed, that the sap may all go to the nourishment of the graft. Failure is often caused by a want of this care.

In heading down old trees, it is a common practice to graft into the large branches; it would be much better to cut off those branches, and to graft or bud into the young shoots which spring up in their places.

The practice of using clay to cover the wounds, is now nearly superseded by the far neater and better mode of applying plasters of Grafting Wax. These are made the most readily and cheaply by spreading the warmed wax over a sheet of unsized paper with a knife, or with a brush when melted, and afterwards cutting up into plasters of the requisite size. The best and cheapest wax is made by melting together one part of beeswax, two parts of tallow and four of rosin.

As grafting early in spring is generally preferable, (more especially for the *cherry*,) it becomes necessary in cool weather to soften the wax by artificial heat. A kettle of coals, or a lamp, may be used for this purpose.

BUDDING.

Budding is always to be performed when the bark peels freely, which takes place when the stocks are in a rapidly growing state. Cherries and plums should always be budded by the middle of summer; apples and pears often continue growing rapidly a month later, and peaches may be done even as late as the commencement of autumn.

It is indispensable to successful budding, that the stock be thrifty, and the shoot in which the bud is inserted not more than a year or two old. No skill can succeed in old or stunted stocks. For the *cambium* or mucilaginous substance between the bark and wood, which hardens into the new wood, and which *cements* the bud to the stock, exists only in sufficient quantities for this purpose in fast growing branches.

Every bud is an embryo plant, and the object is to transfer this from one tree to another. To effect this, it is only necessary that the bud be cut smoothly from the shoot with a very small portion of wood with it, and inserted under the raised bark of the stock in close contact with the cambium. Provided the stock is thrifty and growing; the bud smoothly cut off, and closely and evenly applied to the stock; the cambium uninjured by removing the barks; and the bud be kept to its place a few days by a ligature of moderate pressure; it is of little consequence how the operation is performed, and there can be little danger of failure.

The common way of cutting the bark to remove it, is to make a transverse cut and longitudinal slit, just through it, like the letter T. The bud is then slid downwards under the bark, in the middle of the slit. The whole operation should be performed with as little delay as possible.

Whatever mode is adopted, the bark should always be *lifted* by placing the knife at the edge, and not by running it *under*, as this always injures the cambium.

After the bud is inserted, the whole should be covered, except the bud itself, with a ligature of moistened bass, corn-husk, tow, or other soft substance, bound round it with just sufficient force to press the bud closely on the stock.

In about two weeks, or as soon as the ligature begins to cut into the stock, it must be removed. Early the following spring, the stock is to be cut off a quarter of an inch above the bud, and in a direction sloping towards it, and all the branches and other buds carefully removed that the whole nourishment may go to its growth. Sometimes, (as in the apricot,) it is best to leave two or three inches of the stock above the bud, to tie the young shoot to, that it be not broken down by the wind.

Disappointment very often arises in budding the peach and apricot from the buds, though well set, being winter killed. This may be generally avoided by observing on the tree whence the buds are taken, on what part of the shoots the buds have withstood the preceding winter, and selecting accordingly. These will commonly be found to be the earliest formed buds on the thriftiest shoots.

Shoots cut for budding should always have the leaves removed as soon as they are taken from the tree, about a quarter of an inch above the bud. They may then, if needed, be preserved several days in damp moss or cloth.

Macedon, Wayne co., N. Y. J. J. T.

GREEN PEAS IN WINTER.

The editor of the "Maine Cultivator" says he saw not long since, "green peas as succulent to all appearance as they were when plucked from the vine some five or six months before." The mode of preparing them, is to pick when of the proper size for eating, shell, and carefully dry on *cloths* in the *shade*. All the care necessary, is to prevent their molding; this done they will be fine and sweet. Beans may be preserved in the same way, and with perfect success. If in addition, a stock of green corn is secured at the proper time, as it may easily be, by scalding on the cob when fit for roasting or boiling, and then cutting or shelling the corn from the cob, and carefully drying in the sun, green peas, or beans, or our favorite *succatosh*, may be had the whole year, those who hava never tried it, may be assured that a dish of the latter, in January or March, is a luxury.

CULTIVATION OF FRUIT AT THE SOUTH.

Messrs. Gaylord & Tucker—My principal object is to call attention in the "Sunny South," to the raising of fruit—apples and peaches, especially—as I regard them as most valuable to us, and for the reason that they can be so easily raised. In doing so, I must admit that I have but little hope that I shall excite many to practice what I both practice and preach.

It is frequently urged as an objection to apples, that our soil and climate are not adapted to them—that we cannot raise as good fruit here as is grown in the north. This may be true in part, but in the present shape of the proposition, I am unwilling to admit that it is wholly true. That we do not, as a general rule, is undeniable.

A neighbor of mine has succeeded in raising very fine varieties of apples. He selected such varieties as he *knew* to be good, and planted his trees in the usual manner. He keeps his cattle and horses out of his orchard, and thereby prevents the mutilation of his trees. The consequence is, he has an abundance of delicious fruit from early summer to mid-winter. In an adjoining county, where much more attention has been given to orchards than in this, may be found proofs enough to satisfy the most incredulous, that it is a very easy matter to raise in this latitude, apples of the very best quality. That we shall fail to introduce some of the best varieties from the north, is altogether probable; but this constitutes no objection, inasmuch as we have enough that are already climatised, to give us a great variety if we would propagate them. In a short time I hope to demonstrate this truth by irresistible evidence, if seeing, smelling and tasting, be evidence of that character. At twenty-five feet distance, last February, I dug holes four feet in diameter and from fourteen to sixteen inches in depth. In each of these pits I deposited earth from the corners of the fence, (a rich mold,) sufficient to fill them within six inches of the top. Upon this I placed my trees after taking them from the nursery, without cutting or maiming the roots, in their natural position, giving to each root its full latitude by opening trenches when necessary, and then carefully placed the surface soil among the roots and pressed it down upon them until the pit was filled to a level with the surface. By this operation I have an orchard of three hundred apples, pears and plums, that are coming rapidly to maturity. Indeed, I believe that their growth has been more rapid the present year, than either of the two years they stood in the nursery. Now, I am very certain but for the Cultivator, I should never have grafted these trees, for they and those that I have since grafted, are the first and only ones I have ever seen grafted; and I am very certain that I could not have been so successful in transplanting, without following the general principles laid down in its pages.

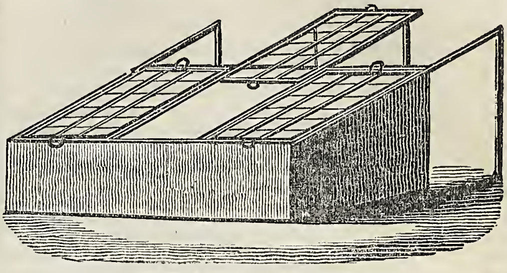
In February, 1842, I transplanted six hundred—in the same month this year, seven hundred peach trees in the same manner, using no manure, and digging the holes only five or six inches deep. I have lost but four trees in sixteen hundred—one peach tree last year from the six hundred, and three this year from the seven hundred, which stood upon land entirely too wet for any plant that requires a dry soil. Now I call this successful operating.

Hancock co., Ga., Dec. 18, 1843. Georgian.

RYE IN PEACH ORCHARDS.

A postscript to Mr. Physick's communication, published in our Dec. number, was accidentally omitted, which is here given:

"It has often been remarked that rye was destructive to peach trees, and I once saw an orchard of about twenty acres go into decay immediately after a crop of rye. I do not believe that rye is any more injurious than other small grain, but the time of plowing for this crop is early in August; and according to one of my experiments, the plowing of a peach orchard at that season will destroy the trees without the rye."



HOT BEDS.—(Fig. 00.)

Every farmer should have a hot bed, though the size may of course be regulated according to the amount of stuff which is to be grown. If a man only wants vegetables for his own use, he will find the expense of making a small hot bed well repaid, in the advantage derived from getting a supply of cabbages, lettuce, cucumbers, tomatoes, radishes, &c. several weeks sooner than they could be had if grown in the open air. For only growing plants for the use of a small family, any old windows may be used—they will do quite well while they last—but for operating on a larger scale, glasses calculated for the purpose should be used.

Hot beds may either be made entirely on the top of the ground, or partly below the surface: but as they require a great deal of moisture, it is better to make them partly below the top of the ground, because thus made, they do not dry up so quick. In making the bed, mark out the ground the size of your frame, and make an excavation to the depth of a foot, or if the ground is pretty dry, eighteen inches. Put in good horse manure, say two feet deep, and put on the frame and glass. When the heat is sufficiently raised, put on six or eight inches of good mold, that which has been made from clean grass sods which have been piled and become entirely rotted the year before, is best; and when this is warmed to the proper degree, which can easily be told by applying the hand to it, plant the seeds. When the sun shines, care should be taken that there is not too much heat; if there is too much, raise the glass; and while the plants are growing, as much air should be admitted as can be done consistently with keeping up the requisite degree of heat. See that the plants do not suffer for want of water, which should be pretty liberally supplied from a watering pot. If the weather should be so cold as to render it necessary, the bed should be protected by means of mats and straw.

In this climate, it is not thought advisable to attempt doing any thing with hot beds before the middle of March; but farther south they may be commenced earlier, acccording to the degree of latitude.

Those who wish for more particular directions for hot beds, can consult the seventh vol. of the Cultivator, p. 38.

The above cut furnishes a very good illustration of the proper proportions of a hot bed frame and glasses. The glasses are made to slide, and one of them is shown drawn back. It should face the south.

PEACH TREES.

Mr. Lewis Sanders of Grass Hills, Kentucky, in a communication to the *Louisville Journal*, says he has found great benefit in protecting peach trees from the worm by the use of wood ashes. He scoops out the earth from about the root of the tree to the depth of 8 or 9 inches, and 18 to 24 inches from the tree. This is done about the first of September, and is left so till about the first of December, when the cavity is filled with leached ashes. Unleached ashes, we suppose, would answer the same purpose, in less quantity. Mr. Sanders says "by exposing the roots to the sun and air, the propagation of the worm is checked, it gives the birds (a particular kind of wood pecker,) a chance to pick them out."

Domestic Economy.

OLD BUTTER.

The excellence of "*old cheese*" has passed into an adage, but butter that is good in *old age*, is not so often found. Made and cured as it ought to be, however, it may be kept a long time, and is none the worse for age. Being at Mr. Bement's the other day, and remarking the fine quality of the butter at table, inquiry was made how long it would keep? Mrs. B. replied that she had frequently kept it six or eight months—that she had just sent a jar to a friend in England, that was made in the early part of Sept. last—"but," said she, "we once kept some over "*two years.*" The circumstance was this; a roll of butter was by accident *dropped into the well*—after two years, the well was cleaned out, and the butter found. It was perfectly sweet and good—being *solid*, the water had not penetrated into or injured it at all.

PUMPKIN PIES.

A correspondent of the Northampton Courier says that much labor may be saved, and these pies be made better, by *grating* the raw pumpkin, instead of first stewing it, as is commonly done.

CHEESE FROM BUTTERMILK.

Miss Neilson, gives in the Journal of the Royal Agricultural Society, the process of making cheese from buttermilk, which she says was obtained from a person residing on Long Island in the United States. The contents of the churn were put into a pot and hung over a slow fire—the buttermilk became curdled, and the curd went to the bottom of the pot. The whey was then poured off, and the curd worked as other cheese, giving it salt to the taste, which will be about half the quantity usually given to skim milk curd. Put the curd in a clean coarse linen cloth, and hang it from the ceiling to dry for a few weeks, when it is fit for use. The linen cloth when hung in a net, gives a neatness to the appearance of the cheese. If a little bit of butter be worked into the curd, and the cheese kept for three or four months, it will be very good. Cheese can be made in this way on a very small scale, even from the produce of one cow.

GREASE SPOTS.

A correspondent of the Southwestern Farmer, who signs "J. E. W." gives the following as a good recipe for taking grease spots out of clothing, &c.

"Take the yolk of an egg, entirely free from the white, (be sure not to scald the egg,) and with a soft brush apply the mixture, and rub it on the spot until the grease appears removed or loose. Wash off the egg with moderately warm water, and finally rinse off the whole with clean cold water. Should not all the grease be removed, which may arise from being on a long time, or not sufficiently washed, dry and repeat the operation."

The writer of the above, says that a fine Merino shawl, which had been badly smeared with *tar* and *grease*, (gudgeon grease,) was perfectly cleaned by this process in a few minutes.

Veterinary Department.

MAD ITCH.

This is a formidable and fatal disease of cattle, mostly confined to the western states, its cause hitherto considered unknown, and medical treatment almost useless. In the October no. of the Tenn. Agriculturist, we find the following, which is deserving of consideration from the fact that the disease appears, so far as we have learned, only where cattle have been fed on stalks, or where that is almost their only food, as in the west. Cattle fed on cornstalks cut in a straw cutter, do not suffer in this way.

"Gentlemen—I know of but one remedy for the mad itch, and that is surgical. Open the second stomach and extract the cornstalks. This fatal disease among cattle is produced by cornstalks. The fibres being indigestible, hang in the *manifold* or *duodenum*, and irritate and inflame until the poor animal is driven to madness. Farmers feed their hogs upon green corn; the cattle folow and pick up the stalk chewed fine by the hogs, which by superior sagacity he spits out, and this ready made article does all the mischief, and so it would serve the hogs or horses if they were to swallow it. Separate your cattle from your hogs in cornstalk chewing time, and you will separate your cattle from the mad itch. An ounce of prevention is worth a pound of cure. Farmer, this is the remedy. A Believer in Proper Remedies."

PERIOD OF USEFULNESS IN CATTLE.

It is surprising how much longer some animals *hold out*, as the expression is, than others. Some fail and become valueless at eight or ten, and others are good at fifteen or twenty years. From what we have seen, we are inclined to think that the Durhams introduced here by Mr. Van Rensselaer, commonly called the *Patroon* stock, in many instances retain their faculties to a remarkable degree in old age. We consider this indicative of strong constitution.

While at Mr. Hillhouse's, he showed us the old bull Ajax, the illustrious sire of a long catalogue of *heroes*, whose successful contentions on many a cattle show field, are chronicled in the premium lists and annals of various agricultural societies. Among his distinguished offspring are *President*, *Leopard*, *Nero*, *Astoria*, and *Prinee*, all celebrated prize animals.

Ajax is a large well made bull, now nearly *fifteen* years old, and like his sire, *Washington*, who died at *nineteen*, has retained in a remarkable degree the fine form and vigor of the prime of life. But he has lately been seized with a stiffness of the limbs, particularly in the lower joints of the hind legs, which for the present renders him nearly useless as a sire.

RAMS HORNS.

Messrs. Editors—The *critique* in a late New-York paper, on some remarks in the August no. of the Cultivator, about the horns of sheep, is incorrect. Every farmer who has kept horned sheep, may have noticed that the annual growth of their horns, for *several* years —(perhaps not "to the end of their lives")—is shown by a rough ring, or wrinkle. The growth of young trees is marked by a ring or "joint," as some call it, somewhat similarly. This is, however, not an infallible criterion of the age, for ewes that have been early bred from will frequently appear a year older than others of the same age, but which did not have a lamb so early by a year. But the facetious author of that criticism, has made a great mistake; to make his ram "*fifty-one years old*," he has counted the *ridges* on his horns, instead of the annual *rings*. Jabal.

Massachusetts, 1843.

COWS LOSING THEIR MILK.

A correspondent at Columbia, Pa., says he has had several cows dry up their milk in *one night* so entirely, that from having given a good quantity, they gave none of any consequence. He conjectures it was occasioned by their eating potatoes, which in his neighborhood, are this year very unsound.

We hear great complaints of a "disease" in potatoes in the quarter where our friend lives—some accounts state that the death of animals had been occasioned by these defective or diseased potatoes—and we think it not unlikely that they may have occasioned the trouble with the cows, especially if eaten in large quantities.

CURE FOR FOUNDER.

A friend at Zanesville, Ohio, has sent us the following recipe: "Bleed freely in the neck, say from one to two gallons, and drench with strong decoction of sassafras tea—one or two quarts. If the horse is not relieved, repeat the drench in six hours. Let his drink be weak sassafras tea. The above will act like a charm; in nine cases out of ten, a perfect cure will be effected in twelve hours at farthest."

Black Leg in Calves.—Our correspondent, Wm. McCoy, Esq. of Pendleton county, Va. will find some cases of the successful treatment of this disease, detailed in this paper for last month, p. 23. He will also find in the previous vols. several articles on the subject.

PRIZE BULLS AND CALVES.

THE subscriber offers for sale two full blood Devon Bulls, which obtained the First Prizes offered for Devon Bulls, at the Baltimore County Agricultural Fair, held on the 19th and 20th October last, viz: Richard, 2 years old last spring, at $50; Marmion, one year old last June, at $50. Also: 3 full blood Devon Calves, got by the celebrated bull, Waverly. They are large and perfectly formed, and are 6, 8, and 10 months old at this time. Price—$40 each. They are of a suitable age for shipping to the South. Address

JOHN P. E. STANLEY,
50 S. Calvert, Corner of Lombard st.
Baltimore, Md. Feb. 1, 1844—2t.

WORCESTER EAGLE AND SUB-SOIL PLOWS.

THE subscribers continue to manufacture at Worcester, Mass. their celebrated Eagle, Improved Eagle, and other forms and sizes of Plows, adapted to all the different sections, soils and uses of the country. Also, the Improved Sub-soil Plows, (see notice in Jan. No. of Cultivator, p. 19.)

The prices of Sub-soil Plows are from $8 to $15, according to size and fixtures, and may be seen at our Manufactory at Worcester, and at our Agricultural Warehouse, Quincy Hall, Boston—also at the store of Messrs. Pruyn, Wilson and Vosburgh, State street, Albany.

For sale at the FACTORY, and at their AGRICULTURAL WAREHOUSE AND SEED STORE, Quincy Hall, Boston—where may be found an unequalled assortment of Agricultural and Horticultural implements and seeds.

Very liberal discounts to dealers.
Jan. 15—1t. RUGGLES, NOURSE & MASON.

LANGDON'S CULTIVATOR.

THE HORSE HOE OR CULTIVATOR PLOW, is an implement constructed and patented in 1842, by Barnabus Langdon of Troy, an old and experienced mechanic. After much labor and practical experiment had been bestowed upon it, it was exhibited for the first time at the State Fair held at Albany, and also at the Rensselaer Co. Fair, of that year, and received a premium at both.

There has been a large number made and sold the past season, and they have been thoroughly tested in various ways by some of the best and most experienced agriculturists in this and the adjoining counties, and in the vicinity of New-York, and all testify to their utility and usefulness, and to their superiority over any implement of the kind in general use. They not only do the work more effectually, but in much less time, and at one half the expense of any other Cultivator now in use, which are three important items, in these times of general low prices for agricultural productions. This Cultivator was exhibited at the last Fair of the American Institute, and received a premium. Much attention was bestowed upon it by Southern planters, and a number of them were sold by Mr. Langdon to go South, for working in corn, cotton, and tobacco. The Cultivator Plow is an implement made for weeding and loosening the soil between the hills of corn, potatoes, peas, beans and all root crops.

When weeding, half hilling, or splitting down corn hills, the weed cutters are always to be used, as represented in figure No. 1.* This operation cuts up the weeds, loosens and pulverises the soil completely up to the hill, and by cross plowing there will be little left for the hand hoe to do.

When the crop requires more earthing or hilling than the weed cutters can do, they are to be taken off, and the mould boards are to be put on, as represented in figure No. 2.*

Both occupy the same position on the plow, and both are secured to the standard by one bolt. The mould boards throw a beautiful furrow each way, thus doing the work in one half the time of an ordinary corn plow.

For digging potatoes, or root crops, this implement is unrivalled. When used for that purpose, the weed cutters should be on, and the plow should then be drawn by a double team; direct the plow under the middle of the hill, just deep enough to raise the crop to the surface, which it will do in a most expeditious and workmanlike manner. These Cultivators are made of the best materials, fitted up in the best manner, with share, weed cutters, and mould boards ground bright, ready for immediate use. The price of the implement is $8 at retail, and a fair discount made to dealers in agricultural implements. Orders addressed to BARNABAS LANGDON, or MOWRY & VAIL, 127 River st. Troy, (his authorized agents) will receive immediate despatch. They are also for sale by Ruggles, Nourse & Mason, Boston; John Mayher & Co. New-York; Pruyn, Wilson & Vosburgh, Albany; J. N. Woolley, Poughkeepsie; and E. Gifford, Hudson.

The testimony of C. N. Bement, Esq:—

Among the new implements exhibited at the State Fair last fall, none seemed to attract the attention more, or appeared to meet the views of the multitude better, than the Horse Hoe or Cultivator Plow, exhibited by Mr. Barnabus Langdon of Troy.

It affords me great pleasure to have it in my power to speak of the merits of this implement from experience, having used one the past season in my corn. My corn ground was laid off in squares, planted in the corners, leaving the hills three feet apart, which enabled me to run the Horse Hoe both ways. The edges of the share being sharp, cut up the weeds, which, with the soil, passes over the cutters, and leaves the soil very light and loose.

The breadth of the share is sufficient for rows of three feet wide, as it loosens and breaks up the soil beyond the reach of the share, and after passing through the crop both ways, there is little left for the hand hoe to do.

It is a very efficient implement, and I have the testimony of a number of farmers and gardeners who have used it, who all speak in the highest terms of it. I did not try it for digging potatoes as my crop was on a side hill; but those who did try it, say it exceeds any thing of the kind which has been introduced for that purpose. Three Hills Farm, Albany, January, 1843.

MOWRY & VAIL, Agents,
Feb. 1, 1844. 127 River-street, Troy, N. Y.

* These figures are necessarily omitted, owing to the room they would occupy.

BURRALL'S PATENT WHEEL PLOW.

THIS is a new article, having, instead of the common landside, a wheel in its place, which receives nearly the whole weight of the plow and pressure of the furrow, and is found on thorough and repeated trial to save more than 30 per cent. of the draft. It also lightens materially the labor of the plowman, especially among roots and stones, and on rough land. It runs lighter, wears better and keeps in repair longer than the common plow, and is in all respects, a valuable acquisition to the farmer.

PLOWS of various kinds, in best style.
THRASHING and CLOVER MACHINES, &c. &c.
Steam Engines, Water Wheels and Mill Gearings.

THOMAS D. BURRALL,
Feb. 1—1t. Geneva, Ontario Co. N. Y.

FARMS TO RENT ON SHARES,
AND
BOARDING HOUSE TO LET,

IN the immediate vicinity of Saratoga Springs, Saratoga co., N. Y.—The subscriber has three valuable improved Farms, comprising about 450 acres in good cultivation and well waterde, with three good farm houses and large and convenient outbuildings attached, which he would rent on shares on favorable terms, to geod tenants, who are capable, intelligent and industrious farmers, and possess sufficient capital to carry on the farms to mutual benefit.

The proximity of these farms to the abovenamed village, (being about one mile distant,) in addition to their fine meadows, offer great advantages for conducting a large milk dairy, and the raising of garden vegetables and fruit. The throng of visiters during the summer months, affording a profitable market.

A Boarding House with every convenience attached and well furnished, favorably known to visiters as the 'Mansion House,' and well patronised for several years past, in the immediate vicinity of the celebrated "Union Spring." The house is capable of accommodating from 40 to 50 boarders, and would be connected with one of the farms at a low cash rent, or let separately to one qualified to keep a respectable establishment.

If desired, two of these farms may be united into one, to an enterprising farmer able to conduct both. Further description is deemed unnecessary, as applicants can obtain more information by letter or personal inspection. All communications with particulars as to present location, references, &c. *postage paid,* will receive attention. Address

H. H. LAWRENCE, Ten Springs,
Feb. 1, 1844—c. & m. 1t. Saratoga Springs P. O.

PRINCE'S LINNÆAN BOTANIC GARDEN & NURSERIES,

FLUSHING, LONG-ISLAND, NEAR NEW-YORK.

PRINCE'S New Descriptive CATALOGUES *of the Linnæan Botanic Garden and Nurseries, of* FLUSHING, with very reduced prices, will be sent *gratis* to every *postpaid* applicant, and orders per mail will receive prompt attention. They comprise as follows, and the cost of publication was above $100:

No. 1, Descriptive Catalogue of Fruit Trees, Shrubs, and Plants.
" 2, Hardy Ornamental Trees, Shrubs, and Plants.
" 3. Bulbous Flower Roots and Dahlias.
" 4. Green-House Shrubs and Plants.
" 5. American Indigenous Trees and Plants.
" 6. Garden, Agricultural, and Flower Seeds.
" 7. do do. in French.
" 8. Wholesale Catalogue for Nurseries only.
" 9. Catalogue of Roses, comprising above 600 varieties of every class.

WM. R. PRINCE & CO.
Flushing, Dec. 6, 1843. 2t.

POUDRETTE

OF the very best quality for sale. Three barrels for $5, or ten barrels for $15—delivered free of cartage by the New York Poudrette Company, 23 Chambers street, New-York. ORDERS by mail, with the cash, will be promptly delivered, and with the same care as though the purchaser was present, if addressed as above to

D. K. MINOR,
Dec. 1, 1843.—3t. *Agent.*

COFFEE AND SPICE FACTORY.

ELIJAH WITHINGTON'S Coffee and Spice Factory, No. 7 Dutch Street, between John and Fulton street, New-York E. W. manufactures and has constantly on hand and for sale, the following articles, viz:

Green Coffee, Roasted Coffee, Ground Coffee, Domestic Coffee, Prepared Cocoa, Mustard, Whole Nutmegs, Ground Cloves, Ground Cinnamon, Ground Pepper, Ground Alspice, Ground Ginger, Ground Cayenne, Ground Nutmegs.

☞ Coffee roasted and ground for Grocers. Roasting 50 cts. per hundred. Grinding, 50 cts. per hundred.

The above named goods are sold on the most reasonable terms, and delivered to any part of the city or Brooklyn, free of expense.

N. B. Cash paid for Mustard Seed.

***Dec.* 1. 1843.—3t.**

CONTENTS OF THIS NUMBER.

Address of Dr. Lee, 47.
Ashes, the cause of Fires, 46.
Ammonia, value of to Plants, 47.
Agr.cultural Readers, classes of, 50.
Ag. Societies—N. Y. State, annual meeting of, 41, 51, 52—premiums of, for 1844, 53, 54—Barbour Co. (Ala.) 43.
Ag. Survey of N. York, 42.
Atlas. Morse's Cereographic, 42.
Asparagus, use of Brine on, 42.
Almanac, West. F. & G.'s, 42.
Bee Hive, by P., 65.
Butter, old but good, 70.
Briers, how to destroy, 42.
Cattle—Mr. Mason's prem. Cow, 42—Mr. Schenck's Cow, 43—New article of Food for, 43—Keeping in Winter, 49—Prevention of Accidents from Bulls, Devon and Dairy Cows, 48—Mad itch in, period of usefulness in, Cows losing their Milk, and Black Leg in Calves, 70—The Herefords as milkers, 66.
Comfrey as food for animals, 43.
Cornstalk Sugar in La., 58.
Cotton, experiments in culture of, 42, 46.
Climate and Productions of the South, 60.
Cellars, to make rat proof, 60.
Cutworms not killed by Salt, 63.
Carrots, culture of, 62.
Colman's Tour, 42.
Cheese from Buttermilk, 70.
Corrections, 42.
Dogs, Shepherds', 49.
Farms—notice of Mr. Nobles', 44—Mr. Pell's, 46—Mr. Geddes', 49.
Farming, profits of, 49.
Fair, a great one proposed, 59.
First year at Farming, 67.
Fruit trees—grafting and budding, 68—at the South, 69—Peach trees, 69.
Grasses, the best in La. 58.
Gate for farms, 65.
Grease spots, to remove, 70.
Hay, value of Timothy, 45.
Horses, the English draft, 56—cure for founder, 70.
Hot beds, how made, 69.
Indian Corn—effect of Guano on, 43—culture of, 43, 49, 56—a large crop, 59.
Irrigation, information wanted, 50.
Labor, dearness of, 60.
Lands—fertility of restored, 60—of Virginia, value and advantages of for Farming, 63—Liebig's Familiar Letters on Chemistry, 63—Land Sales, frauds in, 47.
Manures—turning under Turneps, 43—Salt and Guano, 43—Lime used by Mr. Pell, 46—Marl for Cotton, 46—Ammonia and Charcoal, 47—Surface and Drill manuring, 56—Saline manures, 58—Plaster, 60—Poudrette, 65.
Maine Farmer, 42.
Nut Grass, to destroy, 58, 60.
North American Review, 42.
Poultry—new Domestic fowl 43—varieties of Crested fowls, 57—Profits of, 57.
Potatoes—experiments with, 41—Diseased, 42—Culture of, 41—the Mercers, 50—to Preserve through Winter, 61.
Plows—Ransom's & Wilkie's, 44—Ruggles, Nourse & Mason's, 49—Subsoil, 67.
Pumpkin Pies, to make, 72.
Rice, improved variety, 50.
Root Cutter, Gardner's, 44.
Rotation, Mr. Geddes', 49.
Swine—Big Berkshire, 42—large, 43.
Sheep--Mr. Noble's Leicesters and Merinoes, 44—Demand for Long Wool, 48—Paulars, 62—on the Prairies, &c. 66—Large Fleece, 67—Importance of Warmth to, 47.
Straw Cutters, Eastman's, 44.
Stump Machine, the Vermont, 64.
Sub-soil Plowing, results of, 41.
"The Cultivator" for Premiums, 43.
Temperature—Effects of, on Vegetation, 45.
Vineyards, Dr. Underhill's, 46.
Wheat—cultivated in Drills, 44—Winter, converted to Spring, 58—Will not turn to Chess, 66.
Wool—demand for, 48—Philosophy of, 61—how to increase, 47.

ILLUSTRATIONS.

Gearing for Bulls, - - - - - 48
Shepherd's Dog, - - - - - - 49
English Cart Horse, - - - - 56
Poland Cock and Hen, - - - 57
Bee Hive, - - - - - - - - - 65
Farm Gate, - - - - - - - - 65
Sub-soil Plow, - - - - - - - 67
Hot Bed, - - - - - - - - - - 69

A VIRGINIA FARM FOR SALE.

WE have for sale, a farm on the East river, Mathews county, Virginia, near the Chesapeake bay, on salt water, 60 miles from Norfolk. This farm contains 170 acres land; the buildings are good and new, and sufficient to accommodate a large family; fish, oysters, and wild fowl at the door. Packets run regularly to Norfolk and Baltimore. It would suit a northern farmer, and it can be had for about what the improvements cost. If desired, several other farms can be bought in the same neighborhood. Address post paid,

ARMISTEAD, DIGGS & CO.

Mathews Ct. House, Va., Feb. 1, 1844—1t.

A BOOK FOR FARMERS,

MERCHANTS, Mechanics, Statesmen, Politicians, Lawyers, and the general reader. One of the most valuable works that has ever been issued from the American press, viz: *Webster's Speeches,* arguments in Court and Senate, Orations, remarks in Conventions and Senate, Reports, addresses before Agricultural Societies, Lectures, etc., by Daniel Webster—8th edition, 3 vols., 8 vo., cloth, with a portrait; also in Philadelphia Library style of binding, sheep. These volumes contain the ablest productions of Mr. Webster, up to the time of his becoming a member of the Cabinet. His speeches are models of argumentative power and commanding eloquence. They are rich sources of instruction also to the student of letters, of history, of finance, of the theory of government, and to the active politician, and should be owned [illegible] en of every station, sect, and political denomination. Published and for sale by TAPPAN & DENNET, 114 Washington st., Boston, and for sale by the principal booksellers throughout the country.

T. & D. also publish *Life of George Washington.* By Jared Sparks, 1 vol. 8 vo—600 pages, with 14 fine steel and copperplate engravings, beautifully bound in rich cloth, stamped.

The *Life of Washington,* abridged, 2 vols. 12 mo. cloth. By Jared Sparks.

The *Works of Benjamin Franklin,* with notes, and a life of the author. In 10 vols. 8 vo. cloth and calf bindings. By Jared Sparks

Life and Writings of George Washington, by Jared Sparks, 12 vols. 8 vo. cloth and calf bindings. *Nov.* 1.—3t.

SILK MACHINERY FOR SALE.

A QUANTITY of machinery for the manufacturing of Silk, is offered for sale at the State Prison, Sing Sing, N. Y., consisting of looms for weaving broad silks and braids, together with engines and reels for making cords, winding floss, sewing silks, and from cocoons; likewise a number of other machines used in the manufacturing of silk.

This machinery is now in practical operation at the Prison, and was constructed under the immediate superintendence of an experienced and skillful manufacturer, who still has the work under his charge, and is offered at private sale between this date and the 15th of Feb. 1844; if not disposed of by that time, will then be sold at public auction in New-York. For further particulars apply at the Prison, to

Dec. 1843—2t. WM. H. PECK, Agent.

FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at his long established Seed Store, a supply of the best quality and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, Red Top, or *Herd's Grass, Orchard Grass,*
Lucerne, or *French Clover, White Clover,*
Trefoil, Kentucky Blue Grass, &c. &c.

Also, the different varieties of Wheat, as White Flint, Red Chaff, Mediterranean, and English—for sale in lots to suit purchasers at moderate prices, by ISRAEL RUSSELL,

Feb. 1, 1844. 26 Front-street, New-York.

N. B. The following description of some superior English Wheat sown in the month of October last, the product of which will be for sale at the above Store, is given by a respectable English farmer in the State of New-Jersey, who sowed about eleven bushels, a sample of which can yet be seen. "It is called the Uxbridge White Wheat, and is the most noted Wheat they have in England, it being of fine quality, always commands a high price, as the flour is used by the biscuit bakers in London; it is great for yielding, and puts out a much larger ear than any wheat I have seen in this country. I saw when in England, three years ago, on my brother's farm in one field, 120 acres, that yielded 40 bushels and upwards to the acre. It grows very strong, and is not liable to be laid by heavy rains. I will warrant it free from any soil whatever. I did not see in the eleven bushels, a particle but Wheat; and I have sown it on Clover seed, on purpose that there shall be nothing but Wheat; and I will put nothing in the barn with it, so as to put it beyond the possibility of a doubt of its having any thing in it or getting mixed with other Wheat, which through carelessness is often the case. I have grown a great deal of it myself in England, and know from experience that for yield and quality, there is no Wheat to compete with it. Its general weight is from 64 to 67 lbs. per bushel. It is smooth chaff, and easy to thrash, which is not always the case with smooth chaff Wheat."

TO FARMERS.

THE subscriber is prepared to furnish farmers with Stone and Shell Lime, either slaked or unslaked, at a rate which will make it an object for them to use it liberally in the improvement of their lands, for which purpose he has sold large quantities during the past year. He refers to John Townsend, C. N. Bement, and W. H. Sotham, Esqr's. who have used his lime extensively. E. C. WARNER,

Albany, Dec. 1, 1843.—3t.* *Corner Market and Nucella-sts.*

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to J. OAKLEY,

Oct. 1.—tf. No. 75 Nassau street, New-York.

THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

VOL. I. ALBANY, MARCH, 1844. No. 3.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

WILLIS GAYLORD AND LUTHER TUCKER, EDITORS.

ONE DOLLAR A YEAR.

SEVEN copies for $5,00—FIFTEEN copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "THE CULTIVATOR," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE FARMER'S MUSEUM,

(*Each no. containing* 16 *pages*,)

Is made up of selections from this paper, and published monthly at 50 cents a year—Fourteen copies for $5,00—Thirty copies for $10.

THE CULTIVATOR.

MONTHLY NOTICES.

CIRCULATION OF THE CULTIVATOR.

☞ WITH the general improvement of the times, we are happy to acknowledge a very handsome increase in the patronage of the Cultivator, over that of last year. The improvement in form, and general appearance of the work, has been received with decided and general approbation; and the establishment of the "Farmer's Museum." (our 50 cent paper,) has not, as was feared by many of our friends, had the effect to reduce the circulation of the Cultivator. On the contrary, the subscription to the Cultivator is now nearly 2000 more than it was at this time last year. For this increase, we are indebted mainly to the liberal and spirited exertions of our friends. There is yet, however, much time and room for exertion, and we should be highly gratified if such of our present subscribers, as have made no exertions to increase our circulation, would do us the favor, so far to act as agents, as to make up a class of seven or fifteen subscribers. The liberal commission allowed, would amply repay any one for the effort necessary to make up such clubs. Many of our friends, who were anxious to have the Cultivator circulated in their neighborhoods, have adopted the plan mentioned in the following letter, from a gentleman in Canandaigua:

"In order to obviate any objection to the price of the subscription, I divided the $10 for fifteen copies, into fifteen parts, and received of each subscriber his proportion of the $10; and in this way I soon obtained the fifteen subscribers, for which I send you herewith $10. If the friends of agricultural improvement generally, would adopt this course, I think your subscription might easily be doubled or trebled, as there are few neighborhoods where a club of seven or fifteen subscribers might not be obtained, with but little trouble, as in this way the paper and postage would cost less than a dollar."

ACKNOWLEDGMENTS.

COMMUNICATIONS have been received since our last from R. L. Pell, Henry Watson, C. Sawyer, J. Harland, L. A. Morrell, E. Rich, J. M. Johnson, L. Durand, J. R., S. L. Gouverneur, Peter Ellis, J. R. Speed, K., S. Cassidy, S. W. Jewett, A Subscriber, A Young Farmer, N. Darling, Solon Robinson, J. W. Knevels, H. Weston, S. Whalen, J. J. T., Dutchess County, J. Holbrook, J. F. C., J. D. H., Old Chittenden, K. L., D., G., S. M. Spangler, Anthony & Morrison, C. N. Bement, A. R. McCord, U. Skinner, C. Rich, Richmond, S. McK., R. T. Underhill.

OUR thanks are tendered to BENJ. GUILD, Esq., Secretary of the Massachusetts Society for the promotion of Agriculture, for copies of Messrs. Dana and Foote's Prize Essays—To J. M. SHERWOOD, Esq., Auburn, for the Reports on Field Crops, &c. to the Cayuga Agricultural Society, which we have handed over to the State Society, to be published in their Transactions—To Dr. E. WIGHT, Boston, for the London Pictorial News, containing views of the Queen's Poultry Houses, beautiful groups of the Cochin-China Fowls, (noticed in our last No. p. 43,) Java Bantams, &c.—(we may give these groups hereafter)—To A. W. DODGE, Esq., Sec. of the Essex (Mass.) Agricultural Society, for the Transactions of that Society for 1843—To A. G. SUMNER, Esq., Pomaria, for Mr. Ruffin's first Report on the Agricultural Survey of S. Carolina—To H. S. RANDALL, Esq., for a copy of his Report on the Common Schools of Cortland Co., and Common School Libraries—To the AUTHOR, for Observations on Vegetable and Animal Physiology, by W. L. Wight, M. D.—To Hon. W. C. CARR, for his Address before the St. Louis Agricultural Society, at its last Fair—To HENRY WATSON, Esq., East Windsor, for the Memoirs of the Penn. Agricultural Society, for 1844, and for Hints for American Husbandmen, published by the same Society in 1827.

☞ Several communications intended for this paper, are necessarily laid over till our next. We shall in all cases endeavor to dispose of the favors of correspondents as rapidly as our limits will permit.

☞ It will be impossible for us to publish the Addresses, requested by our friend A. WILTSE. They would occupy the whole of one number.

☞ IN answer to an inquiry, we state that Dr. CLOUD'S address is Lockland, Macon co., Ala.—and that of M. W. PHILIPS, Esq. Amsterdam, Hinds co., Miss.

☞ The Norman horse "*Diligence*," about which Mr. DURAND inquires, has gone back to the farm of his owner, E. Harris, Esq., Moorestown, N. J. We should be glad to receive some notice of his stock.

☞ Our friend, G., of Spencertown, N. Y., will perceive that our plan embraces the suggestions he has made. We have given, and shall continue to give such information on gardening, &c., as we trust will be satisfactory to our patrons. At the same time, we would respectfully thank him for his hints.

BURNING LIME.—SETH WHALEN says he has "been told that lime for manuring purposes may be burned in the field by laying up the stone and covering it somewha like a brick-kiln," and he wishes to know whether this plan of burning lime will answer, or what is the "most simple and expeditious manner of doing it." We have seen lime burned by simply covering the piles of stones with such fuel as it was convenient to use and setting fire to it; but we do not know that this is the best way, not having had experience in the matter.

STATE AGRICULTURAL SOCIETY.

We have received a copy of the doings of the Executive Committee of this Society, at their meeting on the 15th of February; but from the lateness of the time at which they came to hand, we are unable to give them a place in this number. They contain a variety of interesting matter, which, had it been practicable, would have given us pleasure to have published. The Committee have fitted up handsomely, for the use of the Society, the east room of the Old State Hall—and at this place the Executive Committee will hold their regular meetings, on the *second Thursday* of each month.

THE CULTIVATOR ALMANAC.

We printed 30,000 copies of this Almanac, which were all disposed of long before New-Years; consequently we have been unable to supply the numerous orders since received. Another year we shall endeavor to print enough to supply the demand.

NATIVE STOCK.

In our Jan. No. we spoke of the extraordinary product in butter, of a cow belonging to Mr. George A. Mason, which received the premium at Rochester last fall, and stated that we had been informed that she was got by an imported bull. We have since received a letter from Mr. Mason, in which he assures us that we were misinformed, and that the pedigree of this cow cannot be traced to any imported stock.

MERINO SHEEP.

"A Subscriber," wishes some information in relation to the different varieties of the Merino sheep. He asks "which has the heaviest fleece, the Escurial or the Paular? Which is the hardiest, &c. ?"

In the work on sheep published in England, under the superintendence of the Society for the Diffusion of Useful Knowledge, it is said that "the *Escurial* breed is supposed to possess the finest wool. The *Guadeloupe* have the most perfect form. The *Paulars* bear much wool of a fine quality, but have a more evident enlargement behind the ears, and a greater degree of *throatiness*," &c. As to the *origin* of these varieties, concerning which, inquiry is made, we are in possession of nothing definite; they are only sub-varieties of the Merino or Spanish sheep, the origin of which is among the mysteries of past ages.

SPRING HARROWING WHEAT.

"I wish to sow clover where I have wheat; the land is low ground or alluvial. I want to know if it will hurt the wheat to harrow in the clover seed; (my neighbors say it will.) My harrow is hinged, with forty teeth. I think I have heard of harrowing wheat at the north in the spring, but have never seen it done here.

C. Chalmers.

Moore Co. N. C., Jan. 1844."

Where wheat has been partially killed out, or where the surface seems to be packed and close by the snows of winter, harrowing has been resorted to in some instances with success; indeed we have never known wheat injured by this process. At the north, however, we do not spring harrow wheat for the purpose of covering clover seed, as when sown early in the spring, clover rarely fails of germination and growth. Our practice is to sow it on the last light snows, if possible, as the seeds can be distributed more equally this way than in any other we have tried. The moisture furnished by the snow, and the frosts that usually occur, prepare the seed for germination and by their action on the surface, partially or fully cover the most of them, rendering the harrow unnecessary. We think our correspondent need apprehend no danger from its use; still as an experiment is easy, it may be better to test the result in that way

AGRICULTURAL COLLEGE IN TENNESSEE.

Some of our readers may be aware that a very popular Agricultural School has been for sometime in operation near Nashville, Tennessee. Encouraged by the liberal patronage the school has received, the managers have concluded to enlarge their plan, and accordingly have procured from the Legislature a charter for an *Agricultural College.* For this institution, two teachers are now wanted. Single men, who might live in the institution, and devote their energies to the youth under their charge, would be preferred. "One of the teachers should be capable of teaching the English, Latin and Greek languages, and if one could be found who also understands French and German, he would be preferred—and the other should be capable of teaching mathematics, and if he were a chemist, so much the better." In addition to these qualifications, it is desired that the teachers should possess a taste for agriculture and horticulture, and have "confidence that agricultural education is the proper kind for youth." A young man of gentlemanly deportment, who is a practical gardener and nurseryman, is also wanted.

Further particulars may be learned, by addressing (post paid,) T. Fanning, Esq., editor of the Tennessee Agrtculturist, Nashville, Tennessee.

CHARCOAL FOR MANURE.

We see this subject is lately receiving considerable attention. Mr. F. G. L. Beuhring, makes some inquiries of us in regard to the application of charcoal to wheat land—whether it should be reduced to powder, &c. We are unable to refer him to any particular experiments which will give the desired information. We have often seen used, the *dust* from 'beds' where charcoal has been made. This dust consists of fine bits of coal, mixed with the dirt with which the wood is covered while undergoing the process of charring. It is frequently used for corn, putting some, (say two or three quarts,) in each hill at the time of planting. It is also sometimes spread on grass land, and we have generally noticed, that its effects were very favorable. Crops are generelly better, except perhaps for the first year or two, on the beds where coal-pits have been, for several years. We have also noticed the effect of *smoke* from coal-pits, on the surrounding earth—and have seen grass show increased luxuriance and greenness from that cause —the rankest growth being just where, from the course of the wind, the most smoke had struck the ground.

Charcoal is recommended as a manure, because it is an absorbent of *ammonia*, and it is supposed that by spreading it on the soil it will absorb the ammonia from the atmosphere and transmit it to the growing plants as they require. That it is an absorbent of ammonia, may be known from its taking away the effluvia from tainted meat or fish. So completely will it do this, that we have known meat that had considerably taken hurt, made good and free from any disagreeable taste or smell, by being repacked with charcoal between each layer.

SPRING WHEAT.

The Kennebec (Me.) Co. Ag. Soc. lately awarded a premium to Elias Gove & Son, for having raised last year 37½ bushels of red chaff spring wheat on an acre of land.

Gov. Hill states in the Monthly Visitor, that there were raised last year on an island in Winnipisseogee lake, "66½ bushels of fine spring wheat to the acre"—the same land having given the year before, 137 bushels of shelled corn.

DR. MITCHELL.

Your correspondent "Richmond" notices with pleasure, in the No. for November, 1843, the editorial remarks on the "Transactions of the first New-York Agricultural Society." He agrees with you that some of its members were "in advance of the age." He can give you some valuable information as to the agency of Dr. Mitchell in the formation and support of that Society if agreeable to the editors of the Cultivator. [We should be glad to receive it.—Edts.]

PAULAR MERINO SHEEP.

We have received a letter from Mr. Merrill Bingham, of Cornwall, Vt., giving an account of his sheep. Not having space for the letter in detail, we give the following abtract, which comprises, we believe, the principal statements:

Mr. B. states, that about eight years ago, he purchased in Massachusetts and Connecticut, 111 full-blooded Paular Merino ewes, and placed them on his farm in Vermont. He also bought 400 sheep which were high crosses of the Merino with the native. The first buck he bought was a full-blooded Paular, from the farm of Mr. Titus, of Flushing, Long Island. For this buck he gave $60. He afterwards purchased a buck from Rhode Island, and one from Mr. Jarvis, and continued to make such crosses as seemed to be expedient. Mr. B. says he has "kept the pedigrees of the 111 ewes which he first purchased, which would satisfy any curious mind." He says, "the one hundred and eleven ewes gave at the first shearing after I purchased them, 3 lbs. and 12 oz. of wool. Last year, from one hundred and one of their progeny, ewes, each with a sucking lamb, I sheared 5 lbs. and 2 oz. on the average, and this as the result of hay and grass feeding, without extra food of any kind. From some lambs (yearlings) I sheared from 6 lbs. 5 oz. to 7 lbs. 12 oz." Mr. B. states he has sold about 60 bucks, annually, for the last five years. Among those referred to as purchasers, is Mr. Wm. Howard, near Auburn, N. Y. In all cases the wool has been well washed on the sheep's back. He gives sheep no grain as a general rule, believing that the increase of wool from it, does not pay the cost.

Of Mr. Bingham's sheep, a correspondent from Williston, who signs himself "Old Chittenden," says—"It is one of the best flocks of this kind of sheep I saw in Cornwall, for fineness, evenness, length and weight of fleece; and for size, shape, and constitution, I have seen few sheep to equal them in the State."

We have been requested to copy an article from the Northern Galaxy, on the subject of Mr. Jewett's Paular Merinos; but the crowded state of our pages will not admit of our complying with the request.

THRESHING MACHINES.

Mr. Lucius Simpson of Alabama, makes some inquiries about threshing machines, to which we reply, that most of those in use in this section of country are "portable,"—that is, they may be readily moved from place to place. The kind described by Mr. S. as being placed on a wagon, and performing its work in that situation, &c. we have seen, but do not know where any of them are now manufactured. We think they are not as well liked as some others, though there may be better ones than we have seen. John A. Pitts, of Rochester, in this State, manufactures various kinds of threshing machines. He has also a "*separator*," which may be attached to any machine, and will thoroughly clean the grain as fast as it is threshed, without any waste. This contrivance is well recommended by those who have used it. The price for the machines, with the separator is (we think) from $150 to $300.

REARING LAMBS FOR THE BUTCHER.

The Essex (Mass.) Agricultural Society's Transactions for last year, contains a valuable statement from Joseph Marshall, of Ipswich, on the management of sheep for the purpose of rearing lambs for the butcher. His sheep are a quarter Merino, with what is called the native breed of the country. He keeps them in good plight, as he finds they will not otherwise be profitable. In winter they are fed on clover, or 'second crop' hay, bean and pea vines, &c. He is scrupulously attentive to the preservation of their health, by keeping them in dry places. In winter they are kept under an open shed nights, and are never allowed to be out in wet storms, day nor night. He does not even allow their skins to be wet by washing them—preferring to wash the wool after shearing. He has followed this treatment with his sheep for several years, and has never had an unhealthy or dirty-nosed one among them—and they have neve' had a tick or a louse. At the time of lambing, he gives them each a gill of corn every morning, and feeds plentifully with turneps or carrots. They commence lambing in February; and last season, a part of them being put with the buck in March, again produced lambs in August—and Mr. Marshall has no doubt that had they all been with the buck at that time, they would have 'produced a second crop of lambs.' He intends hereafter to have them produce lambs twice a year. He sells his lambs at between three and four months old, at two dollars each, and finds the business profitable. His sheep average four to five pounds per fleece. Mr. M.'s pastures are high ground, not very rich, nor better adapted to sheep than most farms in the country.

THRIFTY HOGS.

Mr. J. R. Speed gives us an account of two remarkable hogs belonging to Mr. S. D. Thompson, keeper of the Ithaca hotel. They are said to be a cross of the Berkshire and Russian breed, though Mr. Speed thinks it more probable that they are a cross of the Berkshire and Leicester. They are described as having "great length and depth of carcass, with small bone, thin skin and silk like *white* hair."

"They were pigged," says Mr. S., "on the 15th of Sept. 1842, and consequently were 16 months old on the 15th of Jan. 1844, on which day they weighed on the scales, alive, 1,390 lbs., and were said by Mr. Barnes, (their keeper,) to be 'as spry and playful as kittens.' They weighed on the 2d of Jan., 1,347 lbs., showing an increase of 43 lbs. in 13 days—being 21½ lbs. each."

Mr. S. informs us that the hogs were to be killed in about two weeks, when he will send us their dressed weight.

☞ A Berkshire hog was brought to this city on the 27th Jan. which weighed, dressed, 675 lbs. He was raised by Mr. Thornton, on the farm of the Messrs. Knower, near this city. It is of some consequence to record these weights, because some think the Berkshires are too small.

☞ Mr. Levi Durand, of Derby, Conn., slaughtered 6 pigs of one litter, on the 24th of Jan. that were eight months and one day old, whose aggregate weight was 1,175 lbs. The largest weighed 223 lbs., the smallest 180 lbs.

BLACK SEA SPRING WHEAT.

Messrs. Gaylord & Tucker.—Believing it will be beneficial to the public to have this wheat reserved for seed, I make this communication. It is believed, in this quarter, to be superior for seed to any other spring wheat. First, because it requires but about two-thirds the usual quantity to sow an acre—2d, it yields better in a good season. If it lodges, it generally fills well—but its great superiority consists in its hardiness to withstand the rust.

Our thresher, Mr. G. Farnam, of this town, says he threshed in Cornwall, about 500 bushels of this wheat, of 1842 crop, and did not have a rusty bundle; whereas three-fourths of the other wheat was very materially damaged by rust. Of the 1843 crop, he threshed about 3000 bushels of this wheat, and found its yield superior to any other spring wheat; and also that it filled well where it lodged.

I learn that all this wheat raised in Cornwall, came from a peck of seed, procured near Boston in 1839 or '40. Some suppose there are two kinds, and that the red chaff is the best. It is dark colored, hard and heavy. Until our millers learned how to grind it, it was supposed to make inferior flour.

Homer Wright, of this town, got 44 bushels from 1½ bu. of seed; Mr. Elmore, 26 from 1 bu.; Orval Smith, 29 from 1 bu. of seed; Hiram Foster, of Whitney, 42 from 1½ bu.; B. Simonds, 41 from 1½ bu. of seed.

I am surprised that our farmers should send so much of this wheat to the mill to be ground, considering the estimation in which it is held, and that there is not more of it than ought to be sowed in two counties.

Shoreham, Vt., Feb. 14, 1844. Clark Rich.

RENSSELAER AG. SOCIETY.

Agricultural School and Pattern Farm.

The annual meeting of the Rensselaer Co. Agricultural Society, for choice of officers and the transaction of other business, was holden at Troy, on the 6th of February. The President, Wm. P. Van Rensselaer, Esq. delivered an excellent address—it was a well written, common sense document. He spoke of the general advantages of agriculture—of the necessity of basing all its operations as far as possible on *system*—of the necessity of understanding the nature of soils and manures, before they can be best adapted to each other—of the advantages of encouraging all branches of home industry, particularly domestic and household manufactures—of the importance of the silk culture, the practicability of which he considered well demonstrated.

After the delivery of the President's address, Gen. Viele introduced a resolution commendatory of the project for establishing an *Agricultural School and Pattern Farm*, and after some pertinent remarks, introduced Dr. Lee, the Chairman of the Committee on Agriculture in the House of Assembly.

Dr. Lee made some very interesting observations on the necessity of scientific knowledge in connexion with agriculture, designed chiefly to show the advantages which might be derived from such an institution as had been spoken of—an institution, where, as he said, should be taught thoroughly and alike, the *practice*, the *science*, and the *profits* of agriculture and its kindred branches. He showed that in proportion to the *skill* and *intelligence* by which labor is directed, would be the productive earnings. He cited Massachusetts as an example. No where, he said, were the laboring classes as well educated as there. That state contained one twenty-second part of the population of the Union, and produced last year, *one hundred millions of dollars worth of property*, viz: 80 millions of manufactures, 15 millions of agricultural products, and 5 millions from the sea. If the other states, said Dr. Lee, had produced property in the same proportion to the population, the aggregate would have been *twenty-two hundred millions of dollars!*

Dr. Lee was followed by Mr. Cook, one of the professors in the Rensselaer Institute, who followed up the suggestions which had been before made, with some very appropriate and interesting remarks. He spoke of the means of wealth which are lying dormant or wasting uselessly away, from an ignorance of their value. He alluded particularly to manures, and in this connection stated some startling facts. He said he was much surprised the other day, at meeting with an Englishman from London, who had come here for the purpose of purchasing *bones*, and who had succeeded in engaging a large quantity at seven dollars a ton. Mr. C. said there were slaughtered annually in the neighborhood of Troy, thirty thousand head of cattle, the blood and offal from which is nearly all wasted—the bones lie bleaching in the air, or are used to fill up holes, and the blood goes into the Hudson.

Mr. C. alluded to the great waste of other manures. About fifteen thousand bushels of ashes were annually bought in the vicinity of Troy, for which the farmers and others were paid 12½ cents per bushel. After taking out *twenty cents* worth of potash from each bushel of these ashes, they were sold to the Long Island farmers at 12½ cents a bushel—the original cost.

There are, said Mr. C., about 10 thousand bushels of oysters used every year in this neighborhood. It is well known by some, that the shells are an excellent manure; yet very few were saved here—they are mostly used for filling up in grading the streets, &c. and are commonly covered many feet with earth.

Mr. Grove of Hoosick, next spoke. He was a native of Germany. In that country, the *science* of agriculture is taught in all the schools—the law requires that every teacher should be able to instruct in both the principles and practice. Every college in Germany, said Mr. G., has a professorship of agriculture.

Considerable interest was evidently aroused in relation to the subject of establishing an Agricultural School and Pattern Farm—a subject to which we are happy to see considerable attention is being directed from various sections of the state, and we hope there will be no relaxation of effort till the object is fully and successfully accomplished.

FOOD OF DIFFERENT NATIONS.

We have been much interested by the examination of a Report made by Mr. Senior of England, on the subject of provision for the poor. It is the result of an extensive observation, and wide correspondence. The following is given as the quality of food used by an agricultural laborer, having a wife and four children.

AMERICA.

New-York.—Tea, coffee, wheat bread, meat twice a day.

Massachusetts—Poultry, meat or fish, with rye or Indian bread twice or thrice a day.

Mexico.—Maize prepared either in porridge or their cakes, and beans, with chile, a hot pepper of which they eat large quantities as seasoning.

Carthagena.—Chiefly animal food.

Venezuela.—Maize, vegetables, and fruit.

Uruguay.—Animal food.

Hayti.—Plantains, sweet potatoes, and other vegetables.

EUROPE.

Norway.—Herrings, oat meal porridge, potatoes, oat meal bread, bacon, and salt beef perhaps twice a week. Brandy in general use, distilled from grain or potatoes.

Sweden.—In the south potatoes and salt fish; in the north porridge and rye bread.

Russia.—Rye bread, buckwheat, and sour krout; soup seasoned with salt and lard.

Denmark.—Rye bread, inferior coffee, cheese and butter.

Hanseatic Towns.—Rye bread, potatoes, bacon seldom, porridge, cheap fish.

Mecklenberg.—Good sound food, occasionally meat, beer.

Wurtemberg.—Pea soup, potatoes, rye bread, meat once or twice a week.

Holland.—Rye, cheese, potatoes, beans and pork, buttermilk, meal soup, beer.

Belgium.—Bread, potatoes, and milk.

France. (*Havre.*)—Bread, vegetables, cider, rarely meat, coffee and molasses.

France. (*Brittany.*)—Barley bread, potatoes, cabbages, 6 lbs. of pork weekly.

France. (*La Loire.*)—Bread and vegetables, bacon or other meat now and then.

France. (*Bordeaux.*)—Rye bread, Indian corn, salt and butcher's meat rarely.

Piedmont.—No meat, a little wine, bread of maize and wheat flour.

Portugal.—Salt fish, corn bread, vegetable soup with oil or lard.

Greece.—Corn or wheat bread, olives, pulse, salt fish and meat occasionally.

European Turkey.—Bread, rice, greens, olives and onions, meat about once a week.

Malta.—Millet soup, barley bread, cheese, herbs, when in employ; out of work, bread and soup only. The same remarks apply to Sicily and Italy.

Mr. Wallace gives the following as the weekly expenditure of a farm laborer in England, whose family consisted of himself, wife, and two children, and whose wages were 9s. weekly, or about $2,25.

Two pecks of oat meal, 1s. 6d. Five pecks of potatoes, 2s. 1d. Milk, 1s. Loaf of bread, 6d. Half ounce of tea and half pound of sugar, 5d. 1 lb. of bacon, 6d. Fish, 6d. Coal, oil, soap, 1s. ½d. Tobacco, 3d. Rent, 1s.

The food of the Irish laborer is mostly potatoes; of the Scotch, oat and barley bread, and fish.

The following singular facts are stated in Mr. Chadwick's Report on the operation of the English Poor Laws. It shows a most perverted state of things in that country, one precisely the reverse of that which should exist; and would it not be well to inquire in this country, whether the loafer and the pauper do not fare better than those who struggle to maintain their independence by honest industry? If so, we are approaching results not widely different from those that are bowing down the population of the old world with taxation and distress.

In the form of substantial food, Mr. Chadwick states that in a week

The transported thief receives,	....	330 oz.
The convicted thief "	....	239
The suspected thief "	.....	181
The soldier "	....	168
The able bodied pauper "	....	151
The independent laborer "	....	122

This is reversing the law of nature and society, with a vengeance; and when a government sanctions such flagrant wrongs, it may expect that men will steal and grow fat, rather than work and starve. The food of the laborer in this country is as well illustrated in the anecdote of the Baltimore apprentice, as by any thing we have met with. An apprentice complained to a magistrate that his master was starving him. "Indeed; what does he give you to eat?" "Why—why," lisped the fellow, "nothing but bread, and potatoes, and beef, and mutton, and such like!" "Well, what would you have?" "Why—why—plum pudding, and cakes, and roast turkey, and such like!"

WATER ON FARMS—CEMENT PIPES.

Those only who are deprived of the advantages of good watering places on their farms, can fully appreciate the privilege they confer, or the amount of suffering they prevent, when the farm stock have no drink except such as is dealt out to them once or twice a day from a well, or are obliged to be driven a distance to a pond or a stream. It is surprising how little attention is paid to this subject of water, when so much is depending upon it, and when so little expense would in most cases provide a remedy for the evil. Wells, artificial ponds, &c. may be resorted to, when nothing better can be provided; but experience proves that running water, such as is furnished by springs, or streams, and which can be conducted to the points where it is most wanted, is not only the best for stock, but far the most economical in the end. There are few, very few farms, on which water works of this kind may not be constructed, and the water conveyed in pipes wherever desired; still we have known men bring their water for domestic use, year after year, in barrels or in hogsheads, when nothing but a little energy or skill was required to bring an abundant supply of pure spring water to their doors.

For the purpose of conveying water from a distance, pipes of various kinds have been resorted to, of which the most common are lead, wood and cement. Of these we give a decided preference to cement, unless used in circumstances where a great pressure is unavoidable, when perhaps wood or lead might be substituted. That a cement pipe properly constructed will not resist any ordinary pressure, is effectually disproved by one we have in use for conveying water to our buildings, and on which a perpendicular pressure of forty feet has not the slightest effect. We dislike lead as a conductor of water for domestic purposes, because there are very few springs that do not contain salts of some kind sufficient to have a decided corrosive action on the lead, as such pipes on examination almost invariably show, and lead is too active and dangerous a poison to be trusted in the human system in any form. Wood is free from the objection attached to lead, but its want of durability is a serious obstacle to its use. In passing through orchards, or meadows, roots will insinuate themselves through the minutest crevices, and once entered will spread and ramify, so as to speedily fill the pipe and obstruct the passage of the water. Clover is if possible, more injurious to wood pipes than the roots of trees, and we have known an aqueduct ruined, and taken up, from the obstruction caused by the roots of this plant. Observation and experience both concur in inducing us to prefer a pipe made of cement or water lime and sand, to any other material for conveying water. There are several reasons for this preference. The first is the purity and sweetness of the water so conveyed. If the water is good at the source, it is good at its delivery; no poisonous metal, or disagreeable wood taste, having been added. A well made cement pipe, is in fact, a calcareous sandstone, and preserves water as pure as would a pipe of that stone. In the second place a cement pipe is durable. Lead usually soon fails from corrosion, and wood from decay; a cement pipe does neither. If well bedded, and at such a depth as not to be disturbed from the surface, there seems no reason why they should not last forever. Indeed, the cement aqueducts of Rome and Jerusalem, after the lapse of some two or three thousand of years, furnish pretty good evidence on this point. In the third place cement pipe is the cheapest. It is the cheapest, because the first outlay in most cases is less than that of any other pipe, and because when once done well, it is done for all time, accidents excepted.

We have had some inquiries as to the best materials, and the best methods of making cement, both for cisterns and for water pipes, and all such we propose to answer here. The best material for cement is the water lime of Ulster or Onondaga; but it should be of undoubted quality, fresh, or packed in air tight barrels, or it will be little better than ordinary good quick lime. As few are aware of the extent to which the manufacture of water lime is carried in this state, we will remark here, that the researches connected with the geological survey of New-York, showed that in 1839, six hundred thousand barrels were manufactured in Ulster co., and an immense quantity is annually manufactured in Onondaga and Madison counties. To prepare the cement, two bushels of very coarse sand or even fine gravel, sharp and clean from all dirt or loam, is mixed with one bushel of lime. The cleaner and sharper the sand, the firmer and better the cement; great attention should therefore be paid to this part of the operation, as well as to the quality of the lime. For cisterns, or other purposes where water lime is used, the same precautions will be found essential, and if observed, failures can scarcely occur.

There are several methods of laying down cement pipe, but all so simple and easy, that any one may perform the operation; although practice enables one to work water lime pipe so much more perfectly and readily, that an experienced hand should be obtained when practicable. The first thing is to provide the water to be conducted. If a single spring, or a stream, it may be considered ready for use; if from several springs, they must be conducted to a common reservoir; and if the water is to be derived from wet grounds, deep covered drains centering at some convenient point, will be required. From this point, or reservoir, the water is to be conducted in cement pipes to the places where it is wanted. The ditch for a water pipe should be not less than two feet deep, and if intended to convey water for the use of a family, should be still deeper; as if laid shallow, the heat of the earth when the water flows any distance from the spring, renders it disagreebly warm in summer. The width of the ditch may be eighteen inches or two feet, a deep trench requiring more width than a shallow one. Where intended for the use of stock only, pipes so low as to be beyond the reach of frost, the plow, or pressure from passing bodies, are sufficient for every purpose. The bottom of the trench should be level, free from holes or soft places, as such would permit unequal pressure on the pipe, and endanger its breaking.

We have known two kinds of implements used for laying the pipe. In one of these cases, firm but flexible harness leather was sewed into a tube four or five feet in length, of the diameter it was intended to give the pipe, and then rammed full of bran. A covering of cement an inch thick was placed on the bottom of the trench, this cylinder placed on the middle of that, and a covering of cement well worked over it with a trowel, or by hand, for 20 or 24 inches. The cylinder was then drawn forward, while the cement was held back by the other hand, and thus the pipe was rapidly and perfectly formed. Two narrow boards, served to confine the cement placed on the ground for the bed, to the proper width of four or six inches, according to the bore of the pipe, and thus left the completed aqueduct of a square form on its exterior surface. In the other instance the implement for forming the pipe was a round rod turned perfectly true, some two feet in length, and perforated from end to end to allow the passage of a strong cord. To this cord is attached a piece of wood ten inches long, of the same size as the rod, turned perfectly smooth, and tapering to each end. The cement is laid over the long rod, well worked down by a trowel, and when sufficiently covered is drawn forward, leaving the short rod attached to the cord a short distance in the rear. As the work advances, and the cement sets, which, if good, is very quickly done, the short rod is drawn forward with the effect of rendering the bore of the pipe uniform in its size, perfectly smooth, and free from every thing to interrupt the flow of the water. Either of these methods, with good materials, will produce an aqueduct sound, free, and which in a few weeks will become almost as hard as sandstone. Much, however, is depending on the thoroughness with which the mortar, or cement, is worked around the rods that form the bore. Care must be taken not to allow the rods to remain too long before they are drawn forward, as the cement, when partially set, may in that way be cracked and injured. Should such cracks occur, the work may be made safe by immediately covering the place with fresh cement.

The cement should be used as fast as prepared, or a firm pipe need not be expected. If kept dry during the construction, the work will be the better, for though such cement will in time harden under water, dryness greatly facilitates that process. If necessary, water may be allowed to flow through the pipe as fast as constructed; but it is best to avoid it if possible, and in no event must any pressure be allowed, as that would certainly destroy the work. The pipe should remain from six weeks to two months, before it is filled with water, or pressure permitted to take place. A piece of lead pipe of suitable bore, should be used to connect the cement pipe with the hydrant or pentstock, as without such precaution frost or accidental concussion might fracture the cement. If it be necessary for any part of the pipe to sustain a greater pressure than another, that part should receive a second layer of cement, well worked upon the first.

When the pipe is laid, it should be uncovered a few days to set, and then fine earth should be thrown upon it, with water to dampen it, so as to have it pack close about the pipe. At first the filling of the trench should proceed carefully; but the whole should be packed close, so as to prevent all danger of breaking. As to the expense of cement pipe, we have the authority of a man well acquainted with the business, for saying that of one inch bore aqueduct, he can lay 10 rods per day, and 13 of three-fourths inch per day. Lime of good quality, can be procured for 16 cents per bushel at the mills, and allowing 6 cents per bushel for the sand, if the work was charged at $1,50 per day, it would be about 12 cts. per rod, and the expense of the material and laying the pipe, some 37 cts. per rod. The cost of the trench would depend on the size and depth, and of that, each can judge for himself. One dollar a rod for the whole expense would be a liberal estimate. Lead pipe would cost from $1,50 to $1,75, according to size, and wood could not be afforded as low as cement. We think no farmer who wishes to construct an aqueduct, will regret that he has made choice of water lime instead of lead or wood; and every man who has not water convenient on his farm, will do well to see whether he cannot obtain it in this way, at an expense bearing no comparison with the benefits that would accrue.

VIRGINIA FARMING.

THE valley of the Shenandoah, between the Blue Ridge and the North Mountain, contains the finest farming district in Virginia, and is exceeded by few, if any, sections of the United States in beauty and fertility. The soil is generally a strong limestone one, admirably adapted to the production of wheat and corn, and favorable to the perfection of all the fruits cultivated in that latitude. In a late no. of the Farmer's Monthly Visitor, we find an interesting account, furnished by the Rev. O. B. Brown, of the farm of Col. Joseph Tuley, near Winchester, the principal point of trade in the Valley. It is a beautiful domain of about 1,000 acres, of which about 800 acres are under cultivation. The house is a splendid mansion, 75 by 60 feet, built in the best manner, with suitable out houses, green house, house for laborers, &c. The green house has one of the choicest collections of rare and beautiful exotics to be found in the country. "Here are seen the Rose of Sharon and the Lily of the Valley, in their native dress, as imported from Syria; the orange and lemon trees, loaded perpetually with fruit in their various stages, from the opening blossom to the full ripe orange and lemon. The bulrush of the Nile, such as formed the ark of the infant Moses, and the rich flowers among which it grew, together with plants from every quarter of the world, are all flourishing here."

But our principal object in alluding to this paper is to notice the course of culture pursued on this farm, Col. Tuley being considered the best farmer of the neighborhood. Col. T. pursues what is called the five years shift system, and is as follows: He takes a field two years in clover, and turns over the sod in the month of August, or early in September. From the 5th to the 15th of Oct. he sows a bushel and a half of wheat to the acre, and harrows it in. After the wheat is cut, the field lies, and becomes covered with a thick and strong growth of rag-weed. In the following spring he turns it up with the plow, and plants to corn before the middle of April. The corn is planted 4 feet apart each way, and eight or ten kernels in a hill. The cultivation is principally done with a plow, beginning as soon as the corn is fairly up, and plowing it both ways about four times in the season. At the second plowing, the hoe follows, and the corn is thinned to two stalks in the hill. The hoe is seldom used but once, and the corn is hilled no more than the plow will do it. When the corn is so ripe that it will mature in the stack, it is cut, and the land immediately put into wheat. Sometimes he sows on the seed and plows it in; sometimes he first plows, and then sows and harrows in the seed; being governed by the state of the ground. After the wheat is sown, the field is seeded to clover. After the wheat is harvested, nothing is permitted to go upon the ground to disturb the young clover. The field then lies two years in clover, when wheat again follows. In the spring of each year, half a bushel to an acre, of plaster, is sown on the clover, and heavy crops of grass are in this way secured. In this course of farming, he once raised from two acres of land 80 bushels of wheat; from a field of 60 acres, he averaged more than 31 bushels per acre; and from a field of 30 acres 65 bushels of shelled corn to the acre. He considers the clover and the plaster as the principal means of improving the soil; yet he is very careful to allow no manure to be wasted. On the contrary, he makes large quantities of it annually, which he applies to the highest parts of his fields, turning it under with the plow, which he prefers to using it as a top dressing.

Col. Tuley keeps a valuable stock of from 15 to 20 milch cows; from 80 to 100 hogs; and a flock of about 100 sheep. In his park about 300 yards from the house, he has nine or ten elks of the large Missouri breed, and about 50 beautiful fallow deer. The venison furnished by these, is very superior. The garden contains about 3 acres; and has beds of fourteen kinds of strawberries, besides raspberries, currants, several kinds of grapes, &c. &c. His orchards are extensive, embracing apples, peaches, pears, cherries, damsons, plums, quinces, apricots of the best varieties, and indeed most other fruits the climate is capable of producing. In short, Col. Tuley's farm exhibits in all its parts, much that is worthy of admiration; and in the dwelling is to be found that urbanity and hospitality which forms a distinguishing trait of the Virginia farmer.

"LOWELL OFFERING."

This publication is "*written, edited and published, by* FEMALE OPERATIVES, *employed in the mills,*" at Lowell, Mass. If other proofs were wanting, we have in the pages of this periodical, abundant evidence that bodily labor is not incompatible with the culture of the mind. Some of the articles written by these *factory girls*—who work in the mills twelve hours a day, (which, by the way, we think is rather too much,) will compare favorably with the written productions of any women in the land!

The work is edited by MISSES CURTIS & FARLEY, and published monthly at $1 a year.

INDIAN CORN.

In actual value to the country, it is probable our Indian corn crop is not exceeded by any other of our agricultural products. Adapted in some of its varieties to every part of the United States; exceeded in nutritive powers by few if any of the cultivated plants; cultivated with great ease, and only requiring one season for its perfection, it is not surprising that corn should be a general favorite, and that more land should be employed in the production of this crop, than any other one. The corn crop of the U. States may safely be estimated at 400,000,000 of bushels; and its value $125,000,000 annually. Immense as is the quantity of corn produced, it must be evident to all, that this quantity might be greatly increased, even were no more land devoted to its culture, by a more skillful husbandry. It is only by this course, indeed, in the older states, that any increase of quantity is to be expected, since no considerable addition of land to that already devoted to this crop, can consistently be made. In the great valley of the Mississippi, it is impossible to set limits to the quantity that might be annually grown, should the demand induce the population to divert their productive energies into that channel.

There are few crops which show the effect of skillful cultivation more strongly than that of corn; and this marked improvement should induce the farmer, instead of adding to his number of acres in corn, to adopt that course which will give him the greatest crops, leaving the surplus acres to other uses. If a man, by good culture, can obtain from ten acres of land the same crop which it now takes from fifteen to twenty to give, then prepare the land so as to obtain the greater amount. That there are thousands of acres that now do not yield more than from 30 to 40 bushels to the acre, that would with thorough culture yield from 70 to 80, none acquainted with our agriculture can doubt. But we have heard it said, "if I employ all my labor and manure on ten acres, the remainder of my fields must suffer." The answer is easy; why cultivate 20, when you can get the same quantity from 10? and will rest from cropping be more injurious to the soil, than the exhausting process of cropping without manuring? Why spread the labor and the manure that applied to ten acres would give 800 bushels of corn, over thirty, and in the end receive but 600 bushels? Let it be remembered too, that a piece of land once thoroughly fitted and manured for corn, is fitted to produce a succession of good crops, which in all probability would more than repay in their extra product, any extra expense incurred for the corn.

As the season for planting corn is approaching, we have collected from various sources, notices of some remarkable corn crops, mode of culture, &c. In the selection of examples, reference has been had more to the details of treatment, than to the amount of the crop, as it is of but little use for a farmer to publish to the world that he has grown an extraordinary crop, unless he also shows *how* he has done it. For this reason we have omitted some of the heaviest crops of corn on record. And here we would remark, that in awarding the premiums for crops, our agricultural societies have not sufficiently insisted on full details of culture from the applicants. In consequence of this neglect of details, one great object of such associations has been defeated, and the good effected by them proportionably limited. This every one must feel, who turns to the reports of the societies in the different states or counties, with the view of ascertaining the best method of culture in all its parts, of any given crop.

The first instance we shall select is from the report of a crop made by Mr. Stevens of Hoboken. We do this because it is one of the earliest of our great corn crops, and shows the action of street sweepings or manure, very plainly:

"Mr. Stevens gave his ground three plowings before planting, and before the last plowing put on 700 horse cart loads of street manure. He then planted in double rows 5½ feet asunder, dibbling in each grain. To do this with expedition and accuracy, he bored two rows of holes in a piece of board about four feet long, so as to form equilateral triangles, the sides of which were seven inches, as thus,

*   *   *   *   *   *   *
  *   *   *   *   *   *

Into these holes he drove pegs 3½ inches long. As the corn was dropped into the holes so made, a man followed with a basket of rotten dung with which he filled them up. During the season the corn was suckered three times. The intervals were repeatedly plowed, and the rows kept clean of weeds by hoeing and hand weeding."

This corn was raised on a bet of 50 guineas between Mr. Stevens and a Mr. Ludlow. Mr. L. planted his rows four feet apart, and the corn 8 inches from stalk to stalk in the rows. His ground was manured with 200 loads of street dirt. His crop was 98 bushels and 14 qts. per acre; Mr. Steven's 118 bushels and 2 quarts per acre. Unless the great quantity of street manure used made it necessary, or the condition of the soil was bad, no good reason can be given for so many plowings for a corn crop.

In 1831, B. Butler, Esq. of Chenango co. in this state, raised 140 bushels of corn from one acre. The soil was a stiff loam, nearly covered with small stones, of which 50 loads to the acre were taken off before tillage. It was plowed but once, but this was done in the best manner. Mr. B. adds—"We then drew on 25 cart loads (about 25 bushels to the load,) of sheep manure, and spread it evenly on the furrow. Rolled and harrowed with the furrow, with a light double harrow, containing 40 teeth, until it was a complete garden mold, and the earth well incorporated with the manure. Again picked off the stones, and again rolled and planted on the 22d and 23d of May, on an even surface, with the early small white flint corn steeped in a solution of copperas and saltpetre, and then tarred and rolled in plaster, and planted in double drills 3½ feet from center to center of the middle drill. The plants standing singly from 12 to 13 inches on the main drill. The corn was once plowed, and afterwards kept clean with the hoe, plastered well on the plant, topped at the usual time, was ripe on the 15th of Sept., and was harvested on the 14th and 15th of Oct.

In this case the sheep manure sustained the high reputation it has acquired for the corn crop, both at home and abroad, and with the exception of that produced in the hog pen, our experience would lead us to prefer the manure from the sheep fold, to any other ordinary farm manures. One thorough plowing was here found sufficient, the rest being left to the harrow; and we are convinced that in most cases one plowing well done, will be found better than more. A fine mellow seed bed must in any event be had, and the soil must be moved with either plow or harrow until this is provided.

Another example of a good crop of corn, is that of Mr Bugbee of Palmer, Mass. who raised from five acres of land 540 bushels, or 108 bushels per acre. The following is the account given by Mr. B. of his mode of culture:—"Last spring I plowed up a piece of green sward, measuring about five acres, and prepared it for corn as well as my means would permit. After plowing, 30 loads of manure to the acre, were spread over the ground, and thoroughly mixed with the earth by means of the harrow, without turning up or breaking the sod. The ground being now prepared, on the 30th of May I planted my corn. A small quantity of ashes, lime, and plaster of paris, mixed together and prepared for the purpose, was used at the time of planting, or put in each hill. Of this mixture, there were 2½ bushels of lime, 2½ bushels of plaster, and 25 bushels of ashes for the 5 acres. The corn was hoed but twice, a third hoeing being unnecessary."

This crop affords another of the many proofs already existing of the excellent effect of such a compost of lime, plaster and ashes, especially on inverted sward, as that prepared by Mr. B. Those farmers who sell off their ashes, and harvest corn crops of only 30 or 40 bushels per acre, would do well to imitate Mr. B. in the use made of his.

In 1823, Leonard Hill received the premium offered by the Plymouth (Mass.) Ag. Society, for the best crop of corn. We condense his statement of the culture, &c. The soil naturally was deep and rich. During the previous winter, while it was greensward, his cattle were foddered upon it. In May, it was plowed very deep into squares 2 feet 7 inches in width. It was then manured in the hole, 64 cart loads barn manure being used. It was planted early with white and flesh colored corn, varieties having small cobs. The kernels were placed about four inches apart in the hills, not thrown together as usual. In the middle of July, the corn spindled, grew very thick, and so filling the spaces that the rows were scarcely discernible. It was hoed three times, and all the suckers early cleared from it. It was gathered on the first of October. The quantity of shelled corn, ascertained by disinterested men, was 139 bushels, 3 pecks.

This was a great crop, but the account is defective in not stating the number of stalks left in each hill. The varieties of corn must have been of the small kind, or such close planting would have prevented the formation of ears. The quantity of manure was enormous.

Some of the most extraordinary crops of corn ever grown in the United States, were those produced by the Messrs. Pratt of Eaton, Madison co. In 1822, they obtained from 3 acres, 517½ bushels, or 172 bushels per acre, and in 1823, from 4 acres, 680 bushels, or 170 bushels per acre. They prepared their land in the best manner, then with a shovel plow made a trench 20 inches wide into which the manure was placed and covered. On these trenches, so covered, the seed corn was drilled in three rows, thus:

* * * * * *
* * * * * *
* * * * * *

Two feet nine inches distant, or 3 feet 9 inches from centre to centre of the rows. Another trench was made, filled, covered and drilled in similar manner. Thus the corn stood in single stalks, 6 inches a part every way, and 2 feet 9 inches clear between the rows.

It is evident that planted in this manner, more stalks would be placed on an acre than in almost any other way, but nothing short of the most heavy manuring would carry through such a crop. We have found by experience that in very dry summers, close planted corn suffers far the most, and if too near, is a total failure. We once planted a piece 2½ feet by 18 inches in the rows, intending 3 stalks to the hill. The corn was manured in the hill. The growth was very rapid and promising until the ears were about setting, when a drouth of some weeks occurred, and the result was not more than half a crop. The years in which Messrs. Pratts' crops were grown, were of the most favorable kind, and the crops, under their course of planting and culture, most astonishing.

In 1835, Mr. Brewster of Oneida co. communicated to Judge Buel an account of a crop of corn and potatoes raised by him in that year. He says, "I had a ten acre lot of stiff strong sward, that had not been plowed for many years; this I intended chiefly for Indian corn. In one corner of this I measured off one acre for corn, and by the side of it another acre for potatoes. I drew on about twenty loads of yard manure to the acre on each, turned it over, followed the plow with the roller, harrowed and furrowed three feet apart from north to south, and put down about the same quantity of manure that was turned under. Commenced planting the 20th of May; seed soaked, rolled in tar and water and plaster, put 4 grains in a hill, one foot apart. The first day planted one-fourth of an acre, which came up well; the other planted on the 22d and 23d, did not come up well, owing, as I thought, to the seed lying too long in the hot sun after being soaked, and we replanted it on the 2d and 3d of June." From the ¼ acre first planted Mr. B. had 26 bushs. 8 qts. or 105 bushels to the acre; the other ¾ did not do so well, and he only got 94 bushels and 2 quarts of shelled corn from the acre. The potatoes were planted on the 1st and 2d of June, furrows three feet apart, and the seed all whole and large, dropped one foot apart in the rows. One good dressing was given them with the plow and hoe, which was all the attention they received. At gathering, by measure he had 519 ½ bushels, by weight, 560.

Several years since that excellent farmer, Mr. Reybold, of Delaware, on a field of 22 acres, raised 2216 bushels of corn, or 100 ¾ bushels per acre. Seven years previous to the crop, he put on 60 bushels of lime per acre, and planted it to corn; in the following spring he put it in oats; in the fall put on 40 loads of barn yard manure per acre, and sowed it to wheat and timothy seed, and the ensuing spring with clover. It remained in grass some five years, and received one top dressing of 40 loads per acre of manure. It was mowed four or five years and gave from 2½ to 3 tons of hay per acre. In the spring of 1835 he gave it another dressing of 40 loads per acre of long manure, allowed the grass to start through it, and then with a furrow 10 inches deep, turned the whole under. The corn was planted in shallow furrows 3½ feet each way. The plow was never used in the field after planting, the cultivation being performed by the cultivator and hoe; and no hilling was allowed. Three good stalks were left on each hill. When the corn was glazed it was cut up, and put in shocks. On this statement, Judge Buel remarks: "The management which led to this extraordinary product of corn, should be deeply impressed on the mind of every farmer. 1. The ground should be well dunged with long manure. 2. It was planted on a grass ley with one deep plowing. 3. It was well pulverized on the surface with the harrow. 4. The plow was not used in the after culture, nor the corn hilled. 5. The sod was not disturbed, nor the manure turned to the surface; and 6th, the corn was cut at the ground when it was fit to top."

We had marked several other crops as worthy of note, but have room for only the following which we select as showing what crops of corn may be grown on the very northern verge of its culture, and what the treatment was that produced it.

The soil was gravelly, dry, had been cropped seven years in succession, and manured each year. In the spring of 1838, the hills of the previous year were split, a good dressing of manure put on and plowed in, harrowed, and with a light plow opened into drills 2½ feet apart. On the 19th of May, 1½ bushels of seed corn was put in a tub, and hot water poured on it, till too hot to stir with the hand. It was steeped two hours, then dried by rolling in plaster, and planted the same day in hills 16 to 18 inches apart, and from 5 to 7 kernels in a hill. On the 5th of June it had come up; on the 11th a small plow was passed between the rows lightly, turning the little mold raised to the middle, and care being taken to stir the whole surface of the ground. It was harrowed and hoed the next week, and again the week after that, the owner believing that the maturity of corn may be hastened some two or three weeks by frequent hoeing, while the plants are young. In hoeing, the earth was left nearly flat. On the first of September the corn was cut up, and husked out the last of the month. The crop when shelled, fell a few pounds short of 150 bushels of corn per acre. It should be stated, that though plenty of seed was used, only three stalks were allowed to remain in a hill, the best being selected for this purpose.

From the history of corn crops here given, and the mode of culture adopted, we think farmers may derive some useful inferences. We have omitted the great crops of Kentucky, 190 and 196 bushels to the acre, the largest yet grown in any country, as the details of culture were not at hand; and the same may be said of some of the premium crops in this and other states. We state here a few of the most prominent results disclosed:

1. The soil intended for corn must be dry; all experience proves that moist soils are unfit for the culture of this grain.

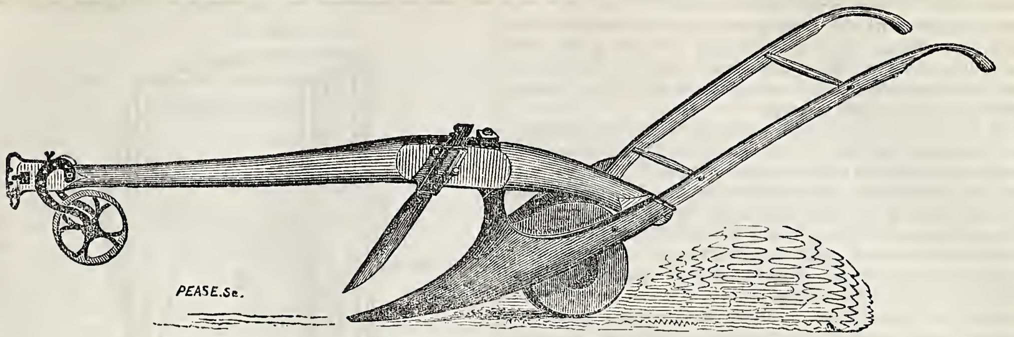
2. It should be made rich, and deep. Corn will bear heavier manuring than any other cultivated plant, and the soil should be deep to permit the roots to descend beyond all danger of drouth.

3. Preparation of the seed is useful; but no seed over soaked or swelled for planting or sowing should be allowed to become dry, as that injures its vitality.

4. The use of top dressing, such as mixtures of ashes, lime, plaster, &c. is established beyond a doubt. Perhaps there are few ways in which labor is better expended, than in placing such composts about corn.

5. The uselessness of hilling corn is demonstrated. Not a great crop of corn has been grown for years, in which this practice has been followed.

6. It is proved that corn too thick will not ear; but



SHELL-WHEEL PLOW.—(Fig. 26.)

The peculiar construction of this plow, consists in the introduction of a *friction wheel* in place of the land side, which the inventor says "works well in all soils, and saves nearly one-third of the draft." A trial made at the State Fair at Rochester last fall, showed that this plow ran with 99 pounds less draft, than another plow doing the same work, and made exactly like it, with the exception of the friction wheel—one plow requiring 298 and the other 397 pounds draft—furrow 12 inches wide and 6 inches deep. The inventor and manufacturer is THOMAS D. BURRELL, Geneva, N. Y.

---

that in some seasons it will bear to be thicker than others. The failure stated by Mr. Betts, of Newburgh, in the Feb. No. of the current vol. of the Cultivator, may be traced to this cause.

7. The impolicy of throwing all the corn put in a hill, when planted, together, is forcibly shown by the success of planting in drills of a single kernel, as in the case of the Messrs. Stevens and Pratts. We frequently hear men boasting how much they have planted in a day, when by planting the grain together, they lose more than would pay for many days' work.

We do not expect that every man will raise a hundred and fifty bushels of corn to the acre, even should he use every reasonable effort. There are too many concurring circumstances, all of a fortunate kind, required to make such crops common; but that any good soil, skilfully cultivated, may be made to give 70 or 80 as a medium crop, we fully believe. Fewer acres planted, and those better manured and tended, would, we are confident, much increase the corn crop of the country, as well as the profits of the farmer.

SPRING WORK.

THERE is no season of the year in which energy, activity, and good calculation is more requisite than the present. Animals of all kinds, young and old, and particularly those intended for labor, demand increased care and attention. March is one of the most trying months for animals, as they are, as the saying is, "between hay and grass," and too often the supply of either they can obtain, is barely sufficient to support life. If farmers would consider the much greater quantity of milk a cow will yield in a season that is in good condition in the spring, than one that has "been on lift" through March or April, we are confident there would not be so many skeleton cows on our farms as there now is. If too, they would for one moment reflect that a large part of an animal's power of draft lies in his weight, and that where this is wanting, and the whole is thrown on muscular exertion, the animal must soon give way, they would feel the necessity of having their working stock, horses or cattle, at this season, in good heart, their flesh sound and durable; and we should be spared the mortification of seeing so many poor and miserable teams in the field, at a time when all should be life and activity. To work well, an animal must be kept well; and the work, in nine cases out of ten will be found best done, where the teams are in the best condition. You might as well expect that an Asiatic team, of a jackass and a woman yoked together, would break up the ground to the proper depth, as that a pair of scarecrow horses or oxen can do it. Never undertake to see on how little food your teams can subsist. No better criterion is needed of the nature of a man's cultivation of his grounds, than is afforded by his animals; and he who starves them, will soon find his land will starve him. At this season of the year sheep require much attention, and will well repay it. Sheep are among our most profitable animals, and on the whole, require less care than most others; if the little they demand is given at the proper time. Look out for the lambs and the weak ones of the flock, and do not suffer a drove of hardy weathers to pick over and trample upon the fodder, before the ewes and lambs can get a taste.

It is an important point in commencing work in the spring, that every implement necessary should be at hand, and in first rate condition, when wanted. The good farmer has his house for his farm implements, as well as for himself or his stock, and is careful that all shall be put in their place, as fast as the season throws them out of use. In the winter, all are carefully examined, and the necessary repairs are made. The farmer who permits this work to pass until the implements are wanted in the field, will find he must lose many valuable hours, if not days, at a time when one, if lost, is with difficulty overtaken.

There is a very great fault among farmers, and we feel justified in reprobating it in strong terms, because we have been sometimes guilty of it ourselves; and that is, laying out more work than can be done by the force on the farm, timely and properly; and experience has convinced us that if work cannot be done as it should be, it is better not to meddle with it at all. Never is this fault more observable, or more injurious, than in putting in the crops of the season. There are some cultivated plants, which we may be certain will not mature unless the seeds are in the ground at about such a time—a time, it is true, varying in different latitudes, but generally well understood at any given place; yet we find some farmers so negligent, and what is worse, making an assumed trust in Providence an excuse for their laziness, as to be weeks behind the proper time of getting in the seed. Indian corn may serve as an example of such plants. As a general rule too, spring wheat, barley, or oats, if the sowing of them from any cause, is delayed beyond the proper time, although by chance, a pretty fair crop, so far as regards bushels, may be produced, yet the quality will be found inferior, the grain light, and the danger from blight, or rust, greatly increased.

Do not entertain the idea that your farm work can go on successfully, unless you give it your personal supervision. The merchant, the lawyer, the doctor, must attend to their business personally, or all will go wrong, and it is not less so with the farmer. Poor Richard never drew from his stores of wisdom a better maxim than that "he who by the plow would thrive, himself must either hold or drive." Laborers may be faithful and careful, but they cannot enter fully into all the intentions and plans of the farmer; and he must be the guiding and directing head of the whole, or much ill directed effort will take place. The good farmer will be in the field with his laborers. He never says to them go, but come; and he knows that in the management of a farm, example is far better than precept.

It would be well if every farmer would, in arranging his business for the year, determine every season to make one or more experiments in some branch of husbandry, that would lead to some important result; either in determining the best method of procedure in regard to some crop, or bring new evidence towards settling some controverted point in agriculture. When we recollect how many points there are in husbandry about which good farmers are not agreed, such as relate to the growing of crops, times and methods of seeding, preparation of soil, rearing and fattening of animals, &c. &c., it is not a little surprising that more carefully conducted experiments are not made to throw new light upon them. There is not a farmer, who might not in this way, by well conducted experiment, and the communication of the results to some agricultural journal, do much towards introducing more correct notions, and better methods of farming than now exist.

The introduction and the propagation of good fruit, is one of the many things that must not be overlooked in any estimate of the spring labors. The man who neglects to plant fruit trees, when he has a rod of ground to plaht them on, avows his intention of becoming a nuisance to his neighbors; for depend upon it, the man who is too lazy to plant, will not be too proud to beg, or above allowing his children to steal the fruit of his more industrious and careful neighbor. Every man who has cultivated a fruit garden is well aware of this state of things; and has found that the coming into bearing of a new and delicate fruit, instead of adding to his enjoyment, as it should, has only served as a signal of gathering, to these ill omened plunderers. The only remedy is for every farmer to endeavor to make the best fruits abundant; to plant enough for himself, and some to spare.

But whatever may be the nature of the labor to be done, there should be no haphazard work; nothing that has not entered into the plan of the farmer, either as principal or contingent, and been provided for accordingly. Every movement in managing a farm should be the result of reflection, of preconcerted arrangement, and directed to a certain and definite end. Were such always the case, we should see fewer badly cultivated farms, fewer pieces of work unfinished for want of time, and fewer farmers "coming out at the little end of the horn," the result of bad calculations and unthriftiness.

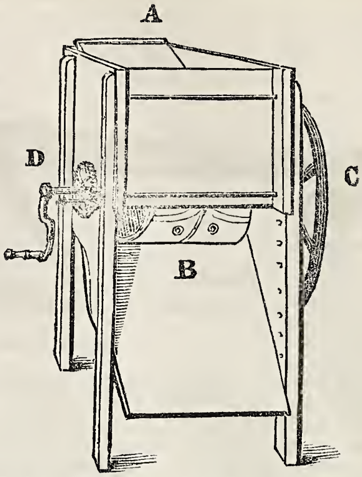
MR. PELL'S ORCHARD.

Messrs. Editors—Your valuable paper is looked on as a farmer's text book in our County, and I always regret seeing typographical errors mar the sense of the communications. They are rare with you; but one appeared in your last number, containing one or two rather singular additions of figures. You say Mr. Pell, on his farm in Ulster county, has 20,000 apple-trees *in full bearing*. The distance of planting trees with us, is 36 to 40 feet apart; this is the distance recommended by Nicoll & Loudon in England, and is 25 or 30 trees per acre; at 40 trees per acre, 20,000 trees would make 500 acres of orchard; you must have added a cypher and intended to write 2,000 trees. Again, 20,000 grafts and not one lost; if you intended to say 200 or 2,000, it would be extraordinary success, but possibly might happen. I have heard of 200 and only 4 lost. Is there not also a cypher extra in the 300 bushels of lime per acre?

Yours, respectfully, Dutchess County.

We gave the statements to which our correspondent refers, just as they appeared in the New-York papers. If there is any mistake, we should be happy to have it corrected by Mr. Pell.—Eds.

In the article headed "Philosophy of wool," p. 61, line 18, of first paragraph, for "*pulling*," read *fulling*. The word "*not*," should also be omitted in the 3d line of the first paragraph in the 2d col. of same page.



CYLINDRICAL VEGETABLE CUTTER.—(Fig. 27.)

These machines, it is said, cut 800 bushels of beets or turneps in a day, and can be regulated to cut thick or thin pieces at pleasure. Cost, $20. Manufactured and sold by Robert Sinclair, Jr. & Co., Baltimore.

NORTHAMPTON AGRICULTURAL CLUB.

We take a pleasure in laying before our readers the following first and second articles of a new society recently organized in the beautiful village of Northampton, for the promotion of Agriculture, Horticulture, &c. We hope to see the time when every village or rural district in our land, where circumstances will admit, will have similar associations; confident as we are, that few things will contribute more to the taste, prosperity and intelligence of the population, than such societies. Let New England take the lead in this, as she is wont to do in most good works, and let us hope that the other states will not long be behind in a course of such obvious utility.

Constitution of the Northampton Agricultural, Horticultural and Floricultural Club.

Article I. This association shall be known as the Northampton Agricultural, Horticultural and Floricultural Club.

Article II. The object of the Club shall be the circulation of general intelligence, and practical intelligence in all the branches of Agriculture, Horticulture, and Flori culture:

1. By the establishment of a permanent library of the best books on these subjects.
2. By the establishment of a correspondence with other bodies seeking the same objects.
3. By procuring the most rare and valuable kinds of seeds, plants, shrubs and trees.
4. By the establishment of Lectures, Discussions, Exhibitions, and other means for the general circulation of knowledge on the subjects embraced by the Club.
5. By planting shade trees in all the avenues and public squares of the town.

The other articles refer to the officers of the society, their duties and the mode of appointment—the meetings of the society, which are to be annual and special, the latter to be notified in the newspapers of the village—the terms of membership, and to alterations of the constitution. Northampton now is one of the most delightful villages of New England; and if the objects of this association, as above defined, are carried out with spirit and effect, it will be a perfect gem in the green valley of the Connecticut. We can only say to other villages in our country, go and do likewise.

BOMMER'S MANURE.

We refer the numerous inquirers on this subject, to the Letter of Mr. Ellsworth, published in our Jan. No. (p. 31,) of this year, where they will find all the information we can give them on the subject.

MISSISSIPPI—HER AGRICULTURE, &c.

PRIVATE CORRESPONDENCE.

WE have, within the last few days, received an ample package from our friend M. W. PHILLIPS, M. D., the able senior editor of that excellent Journal, the "South Western Farmer," published at Raymond, Miss. It is rarely that we have been more interested than in the perusal of the several papers, and we regret that the strict injunction, "not to print," will prevent our readers sharing with us in the pleasure which the life-like sketches of domestic customs, as well as of men and things in that portion of the South would have given them. A few extracts, however, are permitted, and will be found below, and in our next. It is evident the spirit of improvement is abroad in the South, and the advance within a few years has been truly great. Indeed it could scarcely have been possible it should have been otherwise, when such men as Phillips, Affleck, Cloud, Fanning, and a host of kindred spirits, took upon themselves the labor of enlightening the public mind, and in their own practice, giving an example of what a more skilful method of culture could accomplish. There is much yet respecting the South that is misunderstood. Its capabilities and its productions have been decided upon, more with reference to the sea coast, or that of the gulf, than its vast and fertile interior. A few such men, however, as Dr. P. with his perseverance, taste and intelligence, scattered over that region, will, by the influence of their writings and their examples, correct and expand a vitiated, and limited public sentiment, and give to agriculture and horticulture their proper place in the pursuits and aspirations of the planter. Care will take the place of negligence, economy that of improvidence, and comfort, a word that embodies so many associations delightful to the lover of nature, will become more common than it now is. We give the extracts for the truths they contain, and to show what an observing intelligent man, who is willing to devote the rich gifts God has bestowed to the benefit of his fellow men, can accomplish:

"We are too improvident in all the South, to enable us to enjoy the real pleasures of the climate we live in. There are many who have little else than hog and hominy all the year, who are able to afford better living, if property be a test. There are numbers with good estates that have no fruit excepting a few peaches. The majority of my people, I do verily believe, would look upon the Dahlia as a noxious weed; the Cape Jessamine as a worthless shrub; and if it could be that a noble Camelia were standing in a field where a plow could run, even in full bloom, that it would be cut down and cast into the fire with as little compunction of conscience as if it were a sassafras or box elder. They are unable to see any beauty in the noble steed, stately cow, happy hog, farther than they contribute to the making of cotton. Yet with all this there are redeeming spirits enough in the land to make one love his fellows. They are the right sort of material to make good farmers out of; they are beginning to see beauty in all things that a beneficent Providence has given excellence to; and I look for the day when our people will build and plant, rear and nourish, with reference alike to the useful and the ornamental."

"Although I have been in Miss. since 1830, (my native place being Columbia, S. C.,) I have seen comparatively little of the state, as I have found full employment at home. I can then therefore say little as regards fruits, shrubbery, or flowers; yet a residence of two years at Philadelphia, one of the most favored northern locations for fruits, will enable me to speak of the comparative excellence of northern and southern fruit with some confidence. The best peaches, melons and figs I ever saw were in the South; the first and last in Miss., and with a single exception, the best of melons also. The best pear I ever ate was in the house of "Harry of the West;" the best apples were from northern regions. I have found as good summer and fall apples South, as I ever did elsewhere, and excepting that one pear, the Sugar, I have seen no finer than in Carolina; whilst the lums I think could hardly be beaten anywhere, that I ate in S. C. And flowers—here is the land for this beauty of all beauties—a woman and a horse excepted—and they only, because the noble intellect governs. The pride of the forest, the Magnolia, grows here in all its majesty; many flowers that with you require protection, pass out of doors our winters—many that require considerable tact with you to propagate, can be cultivated here by any little urchin. But to return to fruits; there are too few fine varieties of fruits in this region. I know of no gentleman who has any varieties of grafted apples or pears that are in bearing, save one or two. One gentleman near Vicksburg has some fine pears, and Mr. Hatch assured me they are equal in quality to the same variety at the north, but they ripen much earlier. I have now some 25 or 30 varieties of the apple and pear, and shall put out this season at least 50 more. My reason for going so extensively into varieties, is to be certain of some that will do well. I have some ten varieties of the cherry, 5 of the strawberry, 3 of figs, and 3 of raspberries. Of peaches I know not yet what I shall have, as besides budded and northern fruits, I have some 250 seedlings three years old, and 200 more I shall put out this spring."

LETTER FROM THOMAS AFFLECK, ESQ.

WE give below some extracts from a most interesting communication received from our friend Mr. Affleck, of Ingleside, Miss. The extracts relate to topics of interest at the north as well as the south, and will aid in throwing light on the productions and modes of culture in that fertile section of the Union. The doubts which have existed as to the capability of the south to produce its necessary provisions, or to grow the principal varieties of northern fruits, doubts which had arisen more from the neglect of the planter than any other cause, will soon be dissipated by the example of a few such men as are now engaged in enlightening that section of the United States as to its capability and true policy.

Mr. Affleck has transmitted to us two specimens of cotton in the seed; one a specimen of good Mexican, and the other a specimen of that shown by Dr. Lovelace, at the Adams co. Fair, Miss., and supposed to be a hybrid between the Mexican and some long stapled cotton. Dr. L. not having completed his experiments, did not disclose the manner of its production, but we can say that a more beautiful specimen of cotton than the improved, has never met our eye, and shows most conclusively, we think, what a field is open for the well informed and scientific cultivator, in the improvement of this national staple.

The following request of our friend, we place here, that it may meet the eye of Dr. Cloud: "Let me beg of you, as I do not know his address, to say to Dr. Cloud, that if he will forward me a bushel, or what he can spare, of his *improved cotton seed,* to the care of Ringgold, Ferridy & Co. New-Orleans, he will confer on me a favor that I will gladly reciprocate." The extracts relating to sheep, pigs, and growing corn for fodder, will, we are sure, arrest the attention of the reader:

"There is but one difficulty as to *pastures,* and that is, that *none are made.* No one attempts to form pastures in any other way than by *turning out* fields after they will *no longer produce cotton or corn,* and being satisfied with the scanty crops of *sedge and Natchez grass,* and of briars which they may yet be able to support. Within the last year or two, however, better things are attempted. I have seen very promising woodland pasture of orchard grass; and winter pastures of Egyptian oats and rye are becoming common on well managed plantations. The cane swamps afford tolerable grazing; at all events, the swamp cattle manage to grow and even fatten on the abundant *browsing* they find there, and make pretty good beef and capital work oxen. These are the *rams-horned,* brick-colored cattle, known as Piney woods, swamp, Opelousas, or Attakapas cattle—descendants of the original Spanish stock, and yet found in those regions, *uninjured and unimproved.* During the winter, we have no lack of abundance of feed for all kinds of stock; and in summer we have only to have recourse to *Bermuda grass,* to keep every thing *seal fat.* This is the most nutritious grass I have ever seen; and where exposed, the most closely grazed. It resembles *Nimblewill*, (Triticum repens ?) but is more delicate in its appearance, leaves much more numerous and narrower, stems small and solid, growth rapid; and when in meadow, it does not attain a height of over 12 or 14 inches. Yet I have seen this delicate looking grass afford, at a second cutting, between 5 and 6 tons to the acre of dried hay. The first and *third* cuttings not so good. It stands so thick on the ground, and its numerous lateral leaves so closely interlocked, that a good hand cannot cut over more than half an acre per day, and has to cast aside the swarth with his foot, at every second or third cut; the scythe blade passing under and cutting the grass, without laying it over. It is a troublesome grass in the cotton field, but can be got under by a crop of corn and pumpkins, or oats followed by peas; it can bear little or no shade. It is invaluable for coating embankments, and is of incalculable benefit on the levees of the Mississippi. It is stated upon good authority, to be "the Doul grass of the middle provinces of Hindostan." Whoever brought it to this country, is as deserving of a monument to his memory, here in the south, as is Parmentier in France.

"Within some three or four years, another creeping grass has made its appearance here, said to be a native of and abundant in Cuba, and is rapidly spreading; that suits their upland, and thrives better there than *Bermuda*, and is green and grows all winter, whilst the other is cut down by the first frost. I am now using it in my garden and grounds for edgings, grass plats, &c. and think it will answer well, as being easily kept within bounds, of a dwarfish growth, forming a close sod, and remaining green summer and winter. From the reports of Dr. Phillips and others, it would appear that in the *Musketo*, a Texian grass, we have another valuable resource, particularly for winter pasture. Dr. P. presented me with a small quantity of seed, which is in the ground."

"You see how I ramble along! I will now return to my forgotten text, *Sheep in the South*. You are right,—"the old notion of the impossibility of growing good wool at the South, *is* giving way to the evidence of facts." The doctrine that all wool-bearing animals except the negro, have their wool, in a very short time, turned into hair in the South, is also exploded. True, the common sheep of the country, bred in and in for generations, and ranging now in miserable burnt up pastures, and again in the cotton fields, where they become excessively fat on the tender *winter grass*; the one season shorn, and the next allowed to surrender their coats to the briars—such sheep have thin, scanty, hairy fleeces. But they form no criterion. Are there no such animals elsewhere, "bred by, and the property of nobody in particular, the United States over ?" Why is the coat of the black-faced sheep of the mountains of Scotland, so coarse and hairy, whilst that of the Merino of Spain and of New South Wales, where they scarcely ever see frost, so fine in its staple ? I feel satisfied of one thing, that the finer and more spiral the staple, and the closer and heavier the coat of wool, *and the greater the abundance of yolk*, the better will the wool on the sheep's back resist the injurious effects of the sun. Sheep are kept by the planter, in almost every instance, for the mutton alone; some few manufacture the scanty crop of wool. The mutton is *very* fine, *almost equal* to that of the mountain heather-fed sheep of my native country—and that you know, is a great deal for a Scotchman to say! The native sheep of which I speak, are remarkably full and broad in the loin, and the saddle is of course proportionably good. Sheep seem to me always to be in good health here—one never hears of the half of a large flock dying off within a few days, as is by no means unusual in colder countries, where numbers have to be penned together for a considerable length of time.

"We have thus, you perceive, no scarcity of *beef and mutton*. Many planters in Mississippi are now making their own pork, or are exerting themselves to do so. In the neighboring County of Jefferson, this is more particularly the case. I know of several there, who last season killed and cured from 100 to 200 head; one who killed 350, and another over 700 head, all for their own home consumption. The gentleman last alluded to, assured me that all of his hogs were fattened entirely on peas, which were planted between the corn rows at the last tending, and the hogs turned in on them after the corn is gathered; finer bacon I have never eaten. This gentleman has killed his own pork ever since the second year of his farming, some thirty years; tans his own leather, makes his own shoes, harness, &c., wagons and farming utensils; manufactures much of his winter clothing, and this without allowing himself to be influenced by the high or low prices of cotton; though of course, when cotton brought from 15 to 25 cents, he was to all appearances, sinking money in employing his hands anywhere else but in the cotton field. However, the best proof that his system was the true one, is that he is one of the wealthiest men in the country, living in the greatest comfort, his family settled round him, and his negroes comfortable and happy.

"A word more on hogs. I find that the pigs brought here from the north, grow none after warm weather sets in; and grown animals suffer much during the first summer; whilst their produce, bred here, grow and thrive well. I have imported *Newberry* here, and a fine lot of thorough bred sows, from which I am raising my plantation stock—will they do ?

"You speak of being 'anxious that some of your southern friends would try the experiment of sowing corn broadcast, as an article of food for animals, to be used for soiling during the summer, and cured and fed, after being cut, to them in the winter; and ascertain what the practicability and expense of keeping animals in this way would be.' Corn leaves, you are aware, are now used extensively; but would not the stalk cured and cut into chaff, add much to the ability of the planter to feed stock, without materially adding to his expense? It would; and in my own case, *does do so*. At 'Ingleside,' I feed nothing else. My farm here, only consists of 40 acres of an old field, which the small force I keep here, enables me to improve very slowly; the more, as to it is added five acres of garden, &c., requiring much manure. As I keep five head of horses, two mules, two yoke of cattle, from two to six cows and their calves, and some twenty to thirty head of hogs, I was forced to try some such means of making fodder, or have *blades* to haul from one of the plantations. In 1842 I sowed some corn broadcast, but the dryness of the season and the poverty of the land, prevented it doing much. I did not cut it; but the stock when turned into the field, grazed on that patch of corn as long as there was a stump of it left. That winter I fed principally on *crab grass* hay, and corn cut and shocked, Kentucky fashion—which does not do well. This last season I *drilled* several different patches of corn at different times during the spring and summer; drills from 2½ to 3 feet apart, and the stalks almost touching in the drill. It all did well; so well that though I had not more than an acre and half in all, I fed my stock on it during the whole summer, passing the green corn through the cutting box, with a proportion of about one-third or one-fourth of dry fodder; cutting down and curing what was left of each patch, when the next sown became ripe enough to feed out. I have thus sufficient fodder to do me, I think, or nearly so, until oats are ripe, and my drilled corn comes in again. It must be in tassel, or tasseling, before cattle and horses at all relish it; and hogs, though they eat it greedily, *fall off* on it; for the reason, I think, that they reject all but the juice, and hang round the fence all day, waiting for more. I have tried Egyptian millett and Guinea corn, but prefer the maize.

"Pulling corn blades to make fodder, I consider the most unhealthy and unprofitable work done on the plantation."

AGRICULTURAL SOCIETY IN OHIO.—Our friend Mr. G. HEZLEP, of Trumbull county, informs us that an Agricultural Society has been lately organized in that neighborhood. We rejoice to see that the spirited exertions of Mr. H. and others, for the improvement of agriculture, are producing their proper effect. Mr. Hezlep is corresponding secretary to the society.

☞ At page 176 of our last vol., "*A Young Farmer*" will see a description and engraving of a windlass for raising water from wells, which will probably answer his purpose.

Foreign Intelligence.

LETTER FROM F. ROTCH, Esq.

No. 8 Sidmouth st., Regent Square, London, Jan. 1, 1843.

Editors of the Cultivator—Having felt in common with some others who are interested in the advancement of agriculture, that medals might possibly be substituted with advantage in lieu of money for premiums, I took the occasion when passing through Birmingham, on my way here from Liverpool, to call on Mr. ——, the medalist, a very rising man in the art, and one whose talents have during many years given celebrity to other names than his own; for till very lately he was an operative doing the work of some of the first houses in this place, and was, I understand, discharged from their employ for *venturing* to put his own name in the minutest lettering and in the most unobtrusive manner, on a die of considerable merit and value which he had just completed! Fortunately at this moment of *indiscreet presumption*, a more liberal and less mercenary capitalist crossed his path, and advised the discarded artist to commence business on his own account and in his own name. This he has done, and I was glad to find this excellent medalist doing a fair amount of work, and living in a most comfortable and neat, though small house, with a large brass plate on the door *daringly* announcing both his name and occupation. Thus may it ever be with merit, when an attempt is made to withhold from it its meed of praise and reward.

But to return; having been shown into a very pretty little parlor, whose ornaments gave evidence of taste and virtue in its owner, the *artist* himself came in, and I entered on the object of my business, when I was shown a variety of medals from dies of his own workmanship; all of which were minute and excellent in their parts, bold in their relief, and showing admirable skill in their general arrangement and execution. After describing to him what I considered the requisites of an agricultural medal for premiums, I found a well executed die of any single animal, (whether a portrait or not,) would cost from $35 to $40, including the reverse die for stamping the other side of the medal, with the necessary lettering descriptive of the medal and the Society; the names of the parties (gaining it,) to be put in, necessarily, by the graving tool. The impressions from such a die may be struck in Queen's metal at 25c. each, in copper at 60c. each, in silver at $2,50, in very heavy gilt at $3,00, and in gold according to weight. By the electro process, however, a copper medal may be gilt to a thickness which would amount to but little short of a gold one; being in fact a plate of gold supported by copper, which latter serves only to afford thickness of material for the parts that stand out in such *bold* relief from the surface, as would otherwise consume a much more expensive amount of the precious metals. Of course the die becomes the property of the parties paying for it, and the medals may be struck from it whenever they may think best.

Should, however, the first cost of the die be considered a larger appropriation for such a purpose than the funds of a County Society might seem to warrant, it must be remembered that by having *reverse* dies, the face die, supposing it to be adapted to bulls, might be made to answer for all three classes; or by a suitable arrangement of the reverse die be made to answer for as many different societies. The reverse die is not expensive, costing something like four or five dollars only.

I do not pretend to know what may be the prevailing opinion on the subject of *money* premiums; but there are some, at least, who think with me, that any and every substitution for money, would be an advantage, in as much as it would better aid the intent of the agricultural societies themselves, and better meet the prouder and nobler feelings of the competitors.

The difference it seems to me between premiums awarded in *dollars*, and those presented in books, plate, or medals, is, that in one case the event, so creditable to the exhibitor, is recorded by an abiding evidence of the society's approbation and award, which will remain a pride and stimulus to all connected with the successful candidate. In the other case, as there is nothing distinctive in the dollar, there is nothing to be carried back as a trophy to call forth the warm sympathies of the home circle, nothing cognizable to gladden even the youth who perhaps, with many a hope and fear, faithfully attended and looked after this firstling of his father's flock. No—with the undistinguishable dollar in the pocket, nothing remains to tell the story, to realize the success—there is nothing to look at, to admire, to mark the event with those who were not present.

I need only add that if any of our agricultural societies should wish to avail themselves of my services in this, or any other way, it will afford me pleasure to render them—and with your permission, I will, in the course of the next month, have some medals left at the office of the Cultivator, for the inspection of those who may feel interested to see them. I am with respect, yours, &c.

Francis Rotch.

Mr. Colman in England.—From the Mark-Lane Express, we learn that at a meeting of the Council of the Royal Agricultural Society, in London, on the 6th of Dec., Mr. Colman called the attention of the Council to the great inconvenience found at present to arise in all comparative trials in agricultural inquiries, from the want of an uniformity of the weights and measures employed in ascertaining the resulting produce. In traveling through England, he had himself found it difficult to draw accurate conclusions from the results communicated to him; in some districts, the load being said to contain three, and in others, five bushels; the bushel being on one occasion estimated at thirty-eight quarts. In weight, on the other hand, he had found the pound to be made up of sixteen, eighteen and twenty ounces, according to the custom of the particular districts; while in Cambridge, butter was sold by the *yard*, and in Nottingham by the *pint*.

Leicesters and South Downs.—At the meeting of the Smithfield Club in London, in December last, Mr. Hillyard, a noted farmer and stock-breeder, made some interesting remarks about sheep. He said the Leicester breed, founded by Bakewell, had been the means of improving every other long-wooled breed in the kingdom. He was an extensive breeder of this sort of sheep, and the only fault with them was, they had too much fat meet in proportion to the lean. On this account they had not latterly sold as well in Smithfield market, as the "black-faced sheep," (the Scotch breeds, South Downs, &c.) For this reason he had last season crossed many of his Leicester ewes with a South Down buck, by which he hoped to get more lean meat in proportion to the fat. He said "the world could not produce sheep of such beautiful symmetry as the pure Leicesters," and that it was certain they had "one great recommendation over the South downs, for a greater weight of meat per acre, could be produced with the Leicesters." We observe that several farmers in England are crossing the Leicesters with the South Downs; but in general they do not breed from the cross—they keep both breeds pure, and kill the cross-bred stock. The object is to suit the quality of the meat to the market.

Cheviot Sheep.—Count de Gourcey saw a splendid flock of these sheep, on a poor and rough mountain pasture in Sutherland. He was much surprised to see these "horrible mountains and miserable pastures, stocked with such fine animals, yielding on an average 5 lbs. of long beautiful wool—wethers at three and a half years old, without having eaten any other thing but what is to be found in these wilds, weighing alive 200 lbs." "What I have seen in this journey, makes me more convinced than ever that the Cheviot breed is one of the highest merit, since they live and fatten on such land, and that, too, without adding any other food besides what these wilds produce."

Sub-soil Plowing.—At a late meeting of the Cornwall Agricultural Association, Mr. Tilley stated that he had practiced sub-soil plowing for four years, and that all his crops had been greatly benefited. His carrots had doubled in quantity, his turneps had greatly increased, his mangold wurtzel was nearly doubled.

DEATH OF VAN MONS.

By the late arrivals from Europe, we learn that this distinguished chemist, able physician, profound experimental and scientific horticulturist, and celebrated linguist is no more. From various sketches of his life and writings, we condense the following brief statement, believing that it would be acceptable to our readers.

Dr. Van Mons was an entirely self-educated man; the vast acquisitions he had made in most branches of knowledge, were the result of patient perseverance, under serious disadvantages. His extensive knowledge of chemistry and languages, was the most of it gained while acting as a humble apothecary; and his taste for fruits and farming was the result of his botanical researches, and his observations of the state of agriculture around him. In 1817 he was appointed to the chair of chemistry and agriculture in the University of Louvain. Several years before he had commenced his great nurseries in the vicinity of Brussels, and at this time had in them some 80,000 trees, a large portion of them seedling pears. His appointment did not interfere with his care of his nursery, or interrupt his experiments in the production of new varieties of fruits; but in 1819, the city of Brussels conceived the idea that the ground occupied by Van Mons nurseries was wanted for new streets and squares, and he was notified that he must remove them in two months, or the whole would be cut up and burned. With the most persevering activity, he could save only about one-twentieth part of the whole. The remainder was either sold, given away, or destroyed. Unfortunately his new nursery was established on lands belonging to the town, and the authorities were the first to abandon them to pillage. They were mostly destroyed by the army during the seige of Anvers in 1831; and when, spite of these misfortunes, he had hired two pieces of ground and re-planted them, the engineers of Louvain decided that the grounds of Van Mons were of all others the most suitable spot for a gas manufactory, and they were so used in 1834.

Among the learned, Van Mons is known by his valuable papers and publications on scientific subjects, principally on agriculture and horticulture and kindred topics, while to the world generally, his name is identified with some of the finest fruits, particularly pears, yet known, produced by him in the course of his horticultural experiments. The finest collection of pears in the U. States, that of Mr. Manning of Salem, was mostly derived from trees sent out by Van Mons, or ordered from him. The theory of the propagation of fruits, known as the theory of Van Mons, ingenious and satisfactory as it is, in most respects, we cannot here touch upon. We can only add, that the history of Van Mons offers another proof of what the man can accomplish, who forms the determination, and perseveres in his efforts to be useful.

DEATH OF J. C. LOUDON.

Few men of the present age have become more extensively known by their agricultural, horticultural and floricultural works, than Mr. Loudon; they may indeed be said to mark an era in the history of agriculture. The death of such a man is a public loss, and the numerous tributes of respect to his memory, prove that his death was so considered abroad. In the publication of his floricultural works, he has been for a number of years assisted by his wife, a beautiful writer, and of fine taste, and much information on such subjects.

In landscape gardening, Mr. Loudon was without a rival in Great Britain; and many of the gardens and grounds of the nobility, are arranged according to his plans, or under his directions. The works that he published on this subject, with the accompanying engravings, furnish a better guide to the state of that art in Europe, than any thing else to be found. He was a most industrious and hard working man; independant in his feelings, modest and unobtrusive in his manners. In the language of the London Sun, "his country owes him much—perhaps more than it does to any other individual who has pursued the same walk through life. His name will be honored and respected, as long as the happiest and most interesting of human pursuits are properly valued."

Looking-glasses for Pigeons.—In the Queens aviary, at Windsor, the dove-cote is lined with *looking-glasses*, and the pigeons, it is said, "stand for hours at the glass panels bowing and cooing to the reciprocating compliments of their own images, and seem to be vastly pleased with the extreme *polish* of their admirers."

CULTURE OF LUCERNE.

We apprehend that this valuable grass has not received that attention from our farmers that it deserves. The luxuriance and rapidity of its growth, the avidity with which it is eaten by all domestic animals, and the ease with which it is in general cultivated, would seem to point it out as one of the best of grasses, especially where soiling is desirable or practicable. In our last Cultivator, we gave an account furnished by David Thomas, of his success in the culture of this plant; and the following which appeared in the American Traveller, is strong additional testimony in its favor. Mr. Phinney is not the man to waste his money or his land in the culture of valueless plants.

"On a visit to Mr. Phinney's farm in Lexington, Mass., about the middle of June, we saw a piece of lucerne or French clover, as it is often called, which had been cut three times for the purpose of soiling. Soiling is a term applied to the practice of cutting herbage crops green, for feeding live stock; and for this purpose, lucerne is considered admirably adapted. One acre is sufficient for five or six cows, during the soiling season. It is fit for the scythe in congenial soils, about the 10th of May—may be cut every twenty or twenty-five days, and is said to yield from five to eight tons per acre. Mr. Phinney's lucerne was sown in drills, and looked well. A very deep, rich, friable, sandy loam, is the soil in which it grows best. It should be sown early in May, and be subject to frequent and careful culture. Mr. Phinney appeared to be well satisfied with it."

COLD WEATHER.

The extreme cold weather of the month of January, has elicited much remark in different parts of the country; and as the temperature of the several parts of the year have no little influence on the crops, a record of meteorological facts may be of service in forming our estimate of the future. In most places, Sunday, the 28th of January, was the coldest day, but there were several, in which difference was so small, as to be scarcely observed. We quote from the papers a few of the notices as a matter of record:

North Hadley, Mass.	26	degrees	below	zero.
Northhampton, "	31	"	"	"
Berthier, L. C.	38	"	"	"
Saco, Me.	30	"	"	"
Saratoga, N. Y.	34	"	"	"
Franconia, N. H.	39	"	"	"
Montpelier, Vt.	40	"	"	"

We have seen some notices in which, as at Montpelier, mercury congealed; and there are many places in which it might have been easily rendered solid. Mr. Simpson and his party, on their exploring expedition to the North Sea, made bullets of mercury when the therm. was at 49 degrees, and on the 11th of March, the spirit therm. indicated 66 degrees below 0. Below we give the average temperature of the month of January, for several years, by which it will be seen that it was much the coldest that has occurred in that time, with the exception of 1840.

January, 1838,	29	degrees.
" 1839,	22	"
" 1840,	17	"
" 1841,	26	"
" 1842,	27	"
" 1843,	30	"
" 1844,	18	"

The therm. was lowest at this place on Monday, Jan. 26, when at 6 o'clock, A. M., it stood at 10 deg.; at Albany, the lowest observation was 16 deg. The cold seems to have been extensively felt over the whole U. S., as at Jacksonville, in Florida, on the night of the 26th, the therm. indicated 44 deg., ice formed, and there was a light fall of snow.

Limerock Farm, Howlet Hill, Onondaga Co., N. Y

EFFECT OF CLOVER HAY ON ANIMALS.

Some late writers have taken the position that clover hay produces a most injurious effect on domestic animals, particularly horses, and that to this cause the great increase of diseased horses is to be attributed. We lately heard a farmer affirm, that he believed the introduction of clover into general cultivation, the greatest curse yet inflicted on the country, and assigned as a reason for this singular opinion, its effect on animals when used as fodder. Late English writers have attributed to this kind of hay, the prevalence of heaves in horses, and the great increase of other diseases that effect the respiratory organs. This is a most important subject, and should receive a full investigation. Clover is too important a plant to be discarded, or condemned, except upon the most satisfactory evidence. Its value as a fertilizer, and a preparative for wheat, to say nothing of its use for pasture or hay, would demand that it should not be condemned unheard. For ourselves, we have very little belief in the injurious properties assigned to clover. We have used it constantly for pasture and for hay, more than thirty years, and never to our knowledge, has an animal suffered from it; certainly no horse has been taken with the heaves while fed on it, or while in our possession. As hay for sheep, we have considered it unrivalled, and should have no fears that any stock would not winter well with a supply of well cured clover hay.

And here lies, we think, the great source of objection to clover hay. It is too often *imperfectly cured*. To save the leaves and the heads, which are apt to fall in handling or curing, the hay is put into the barn while the large stems are full of moisture, or the natural juices, and the fermentation which ensues, causes the whole mass to become damp, and if not spoiled wholly, it becomes mouldy, black, and when used raises such a dust, that it is no wonder that horses and cattle are choked or their lungs destroyed. Our experience shows that clover may be perfectly cured without losing any of its valuable parts; cured so that when fed out, no more dust will be flying than from timothy or herds grass, and we shall be slow to believe, that from such hay, any injury to animals ever ensues. If clover is really guilty of what a few have alleged against it; if the difficulty proves to be in the plant itself, and not in the preparation of it; then it may be necessary to find a substitute—a task, we think, by no means easy. Clover is, however, too well established in the good will of the farming community, to be easily put down, and we do not deem it likely at present, to be sneezed or coughed out of favor.

COMPOST.

"Will you be so kind as to inform me how, in making compost of muck and coarse barn yard manure, the lime is to be applied, the quantity requisite, and the time occupied in the process? Conant Sawyer.
Keesevile, Jan. 1844."

In making composts where lime was used, it was formerly the practice to mix it in the pile merely slaked, but it was sometimes where used in this way found to produce little effect, and Dr. Dana recommends that it be prepared by dissolving one bushel of salt in water, and with this slaking a cask of lime, the mixture to lie some eight or ten days when it is to be incorporated with the muck; the above quantity furnishes the alkali required to convert three cords of peat or muck to a first rate compost. This if shovelled over a few times to allow full action and combination, may be applied at once to the crop or the soil. If barn yard manure is used in making the compost, there should be alternate layers of muck, barn yard manure, ashes or lime, until the requisite quantity is prepared. The time required to fit this for use will depend on the rapidity of the fermentation, temperature of the atmosphere, &c. If convenient compost heaps will be the better for being prepared the year before hand, if they can be kept from the weather.

Our correspondents inquires respecting Bommer's patent for manures will be found answered in our January number of the current vol. For that reason alone have we neglected to comply with the request made us.

AGRICULTURAL SCHOOL AND PATTERN FARM.

We would call attention to the article written by Dr. Lee, in another part of this No. It appears to us that an institution of the kind proposed, would be of great importance to the interests of agriculture. If properly managed, it would act beneficially in several ways. First, it might be regarded as a *grand focus* for the collection and dissemination of those particles of light upon rural pursuits, which are now scattered abroad in the world in such an abstract and separate manner, that they produce little good to the citizens of our country. We want some *medium* by which these facts that are now thus scattered about, one being held by one man, and one by another, and so on, may be collected, made plain, and put in possession of every man.

Secondly, such an institution would be a means of *originating*, of developing knowledge. In relation to agriculture, there are many subjects of a *doubtful* nature, such as the relative value of the various manures for the different kinds of soil, and for different plants. The relative value of different breeds of domestic animals, whether for the dairy, the stall, or for other purposes, and the most profitable means of supporting them.

Few individuals are competent to make the experiments necessary to solve these questions. More time, capital and attention are required, than they can bestow. Besides, no one feels that it is his duty to risk his time and money on a doubtful subject, when the results, let them be what they may, will be of as much consequence to the public at large, as to himself. By the aid of such an institution as this, all such questions, and others, may be put at rest—and the *whole country* would enjoy the benefit without any individual sacrifice.

IMPROVING LAND—INQUIRY.

"My land is a part of it a clay loam, part a gravelly sand, and the greater part a tolerably stiff clay; the subsoil mostly a stiff clay or hardpan. Most of this land has been subjected to the skinning system for a number of years, and is now mostly under the plow, and has been for several years; the previous owner believing his farm too small to seed down oftener than once in 8 or 10 years, and then with 4 quarts of timothy to the acre. I have sowed about 10 acres to rye, sowed it with timothy, and intend to sow it to clover in the spring, at the rate of 8 qts. timothy and 4 qts. clover per acre. This is all I *have* done, and now I should be glad to know what I *should* do, in order to bring the land into a good state of cultivation, with my limited means.

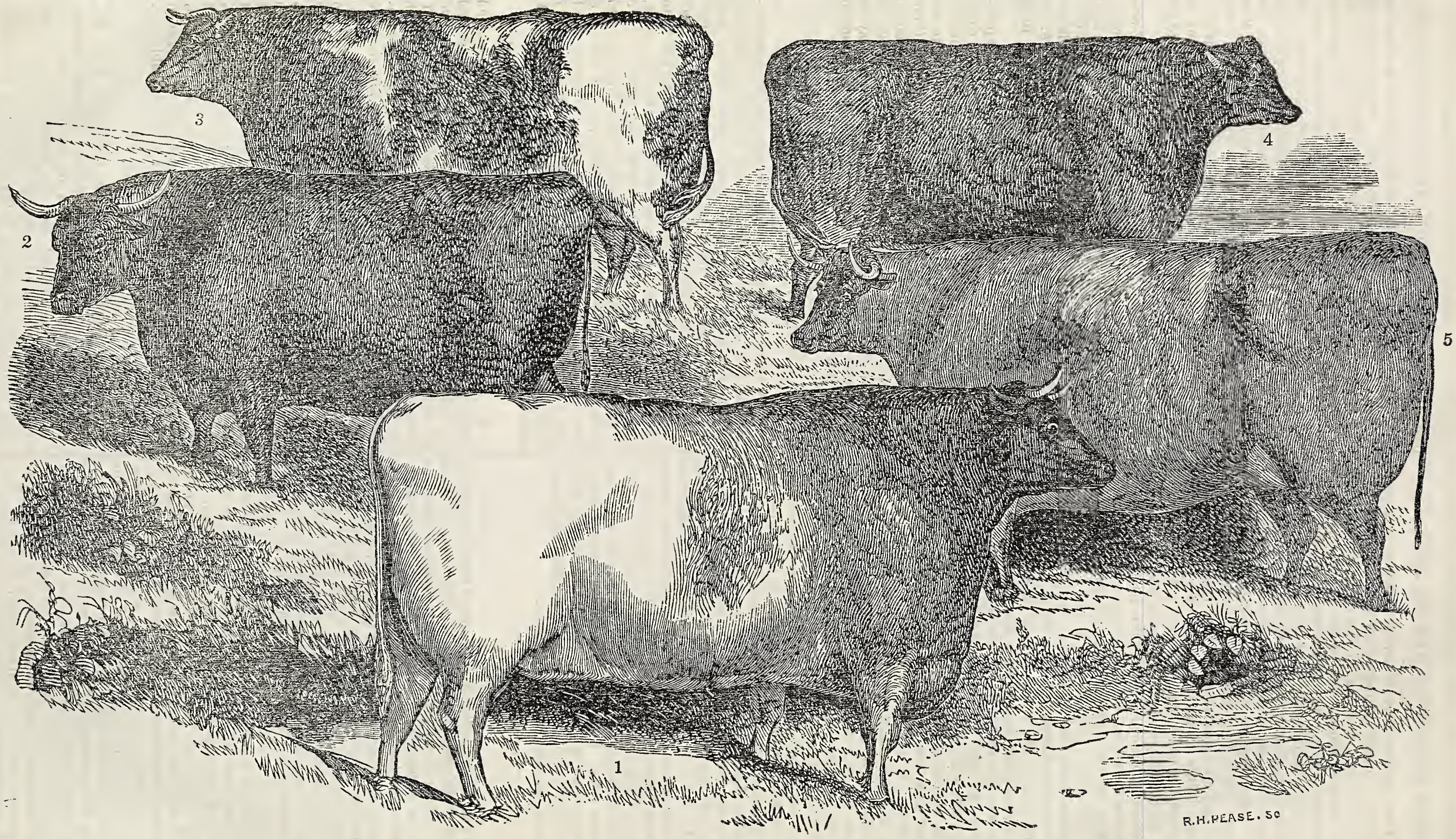
A Young Farmer from Greene Co."

We advise a Young Farmer to get his land seeded down as soon as possible, and for this purpose clover and timothy will be as good as any thing. With the amount of stock owned by him he can make a large quantity of manure annually, if he provides his yards and pens with the wash of roads or even common loam to act as an absorbent. Peat or muck, he says he has none, or there would be no want of materials for manure. Cultivate green crops such as buckwheat, corn, or rye to plow in as a preparation for other crops. Hardpan or stiff clay soils are usually wet; if his is of this class, drain by all means, nothing can be done to advantage on cold wet lands. If the soil is stiff, but dry, the subsoil plow will perform wonders, in deepening and fitting it for crops. If he has 150 acres of land in this condition, he has abundant room for experiment as to the best mode of recruiting; but where manures were not to be had, we have known the best results from plowing in green crops, and on these, clover, plaster, &c. we should rely.

ERRATA.

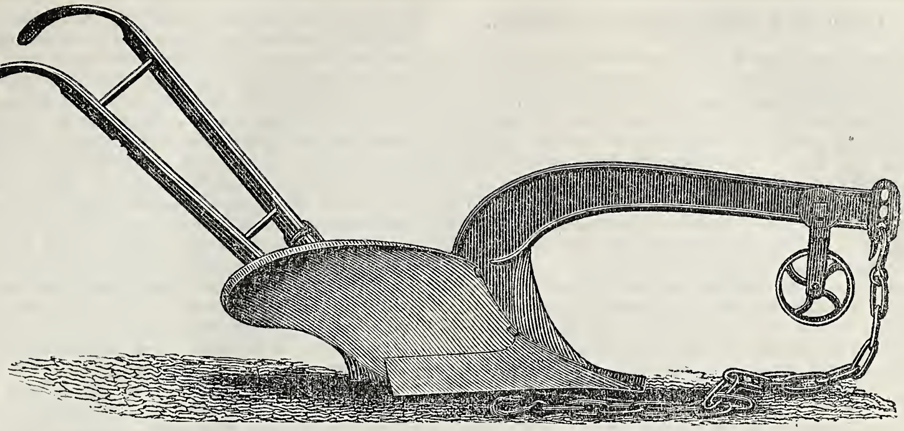
In my communication to Solon Robinson, Jan. No. 1844, page 33, the red cedar is erroneously named *cupressus thyoides*, which is the name of the white cedar of New-Jersey, Long Island, and the Southern States, and which we here use for rail fences. Red cedar is the *juniperus virginiana*, and grows in dry and upland soil, while the other delights in swamps and low grounds.

Richmond.



FAT CATTLE EXHIBITED AT SMITHFIELD SHOW, LONDON, DECEMBER, 1843.—(Fig. 28.)

No. 1.—Short Horned Cow bred by Sir C. Tempest, which received the first prize in the class for best cows and heifers, and the Gold Medal as the best animal exhibited.—No. 2. Devon Steer, 1st prize in class 3.—No. 3. Short Horned Ox, 1st prize in class 2.—No. 4. Prince Albert's polled Galloway Cow.—No. 5. Lord Spencer's Durham Ox, 1st prize in class 1.



REUBEN M'MILLEN'S PATENT CAST IRON BEAM PLOW.—(Fig. 29.)

Messrs. Gaylord & Tucker.—Having purchased the exclusive right of making and vending the above plow for the Counties of Albany, Schenectady, Columbia, Rensselaer and Washington, we take the liberty of forwarding you a cut of the same. It consists of four pieces of iron, exclusive of the handles or handle, as the purchaser may choose, which are of wood. It is so put together by grooves and dovetails, that one small wedge of wood holds the whole firmly and permanently together. The beam and land side are cast in one piece, except a small heel piece which is so constructed that it can easily and cheaply be replaced when worn out. The share and coulter are in one piece, and when worn out can be replaced with as little trouble and expense as any other. The mold board is in one piece, and is not exceeded by that of any plow extant for neatness and smoothness in turning a furrow. (For further information, see advertisement.) ANTHONY & MORRISON.

Troy, Feb. 14, 1844.

TOBACCO IN CONNECTICUT.

Messrs. Gaylord & Tucker—East Windsor has for a long time been as celebrated for its distilleries and tobacco as Weathersfield for its state prison and onions, and manufactures daily as many bushels of the staff of life into the soul and body destroying poison, gin, as the states prison numbers convicts. We grow in this town annually about three hundred tons of tobacco, and in the Valley of the Connecticut about five hundred tons are grown annually. The yield the last year was less than usual, 1,500 pounds being about the average per acre. The price of tobacco the last season of a fair growth was 7 cts. a pound, and most of the crop was sold before housed and cured. We have two varieties of the weed, the broad leaf and the narrow leaf—the latter is about two weeks the earliest.

It seems our tobacco is of a peculiar species, or our soil and climate are peculiarly adapted for the production of a superior article.

The soil that produces our best tobacco is a light sandy loam. We prepare our beds for the seed as early in April as possible—select the richest or best land in the garden or on the farm, moist but not wet—manure and prepare it as we do for the cultivation of cabbage or any delicate plant for transplanting—pulverize, and make the bed as fine and smooth as possible; then sow the seed broad cast about as thick as we do cabbage seed; then roll or tread down the bed thoroughly, that the seed may be *pressed* into the soil. The bed is kept clean of weeds. In a common season the plants will be large enough for transplanting by the 10th of June. The land for the crop should be well manured and plowed at least twice before the time of transplanting, and harrowed and rolled or bushed, and left as smooth as possible. We mark the rows three feet apart and straight; on the rows we make small hills for the reception of the plants, 2 feet to 2 feet 6 in. apart. We have our land all prepared by the time the plants are large enough for transplanting. If raining at the time, we take the advantage of it and get all our plants out; if not we set and water. After this, the field is examined several times, and where plants are dry or injured by worms others are set in. As soon as they stand well they are carefully hoed and vacant places filled with new plants—after this the cultivator is used between the rows and the crop kept clean with the hoe. The plants are frequently and thoroughly examined for the tobacco worms, and they must be destroyed; if not the crop, is sure to be. When in blossom, and before the formation of seed, it is topped about 32 inches from the ground, leaving from 16 to 20 leaves on each stalk. After this the suckers at each leaf are broken off, and the plants kept clean till cut. When ripe, the time of cutting, the leaf is spotted, thick, and will crack when pressed between thumb and finger. It is cut any time in the day after the dew is off, left in the row till wilted, then turned, and if there is a hot sun it is often turned to prevent burning; after wilted it is put into small heaps of 6 or 8 plants, then carted to the tobacco sheds for hanging. We usually use poles or rails about 12 feet long; hang with twine about 40 plants on each rail—20 each side, by crossing the twine from the plants one side to the plants the other, the rails about 12 inches apart. It hangs from six to ten weeks to get perfectly cured, which is known by the stem of the leaf being thoroughly dried. It is then, in a damp time, when the leaves will not crumble, taken from the poles and placed in large piles by letting the tops of the plants lap each other, leaving the butts of the plants out. It remains in these heaps from 3 to 10 days before it is stripped, depending on the state of the weather, but must not be allowed to heat. When stripped it is made into small hands; the small and broken leaves should be kept by themselves. It is then by the purchaser packed in boxes of about 400 pounds, and marked *seed leaf tobacco.* The most of our last crop has been shipped to Bremen.

I think we can cultivate one acre of tobacco with the same labor and expense that we can two acres of corn that produces 60 bushels to the acre, and the manure required is about the same as for the corn crop, and I do not think it exhausts the land as much as the corn crop, for it is not allowed to seed. Henry Watson.

East Windsor, Jan. 22, 1844.

☞ We have been presented with a scythe from the manufactory of Messrs. Taylor, Hitchcock & Co., of Wayne, Maine. It is, to appearance, an excellent article, and from the representations of Messrs. Breck & Co. of Boston, and others, by whom the scythes from this establishment have been sold, we have no doubt that they will be found satisfactory to purchasers.

LIME AS A DESTROYER OF SORREL.

Messrs. Gaylord & Tucker—In the 9th volume of the Cultivator, page 123, you published an extract of a letter from G. Billings, Esq. of Carlisle, Mass., in which he inquires, "Why is it that land produces sorrel, the poor as well as the rich? and what is the best method to rid the soil of it." To these inquiries you answered, "The acid of sorrel is the *oxalic*, and sorrel will only grow in soils where this acid is in abundance. To destroy sorrel it is only necessary to neutralize the acid that produces it, and this may be done by any alkali, but the most common and cheapest is lime."

Seeing the same doctrine concerning *sorrel* and *oxalic acid* in the agricultural paper published in this city (New-Haven) I ventured to call in question its correctness. My article was republished in other periodicals, and was made the occasion of an appeal to the distinguished Chemist of Lowel (Dr. Dana) for his opinion upon the subject. This called forth Dr. Dana's letter, republished by you in the August number of the Cultivator, 1843. The positions which I endeavored to maintain were, 1. The organic acids found in plants (the *oxalic* being one) are formed within the plants themselves, and are not extracted from the soil. 2. The *oxalic* acid does not exist in the soil. 3. The application of lime to the soil, with a view to neutralize the *oxalic* acid, is therefore misapplied, and of no use for that purpose. 4. The application of lime to the soil does not prevent the growth of sorrel.

Dr. Dana, upon the appeal made to him, says, "Plants *form* oxalic acid. The soil *seldom* contains *traces* of oxalic acid." In another place he terms sorrel "the *oxolte-forming* plant." The word "traces," used by the chemists, denotes a quantity so small as hardly to be discoverable—so small as not to be weighed in the analysis. Hence, according to Dr. Dana's statement, the oxalic acid can *seldom* be found in the soil, even in the least discoverable quantity. It is *formed in the plants* where we find it. In this, I believe, he agrees with all other chemists. He thus confirms substantially the positions which I maintained, that the *oxalic* acid is formed in the plant itself, and is not found in or extracted from the soil; and justifies my inference that "the application of lime to the soil, with a view to neutralize the *oxalic* acid, is misapplied, and of no use for *that* purpose." Dr. Dana, then, has decided in my favor one point which has been in dispute. I am contented to abide this decision. Therefore, if you please, Messrs. Editors, we will say no more about the use of lime in neutralizing the *oxalic* acid found in sorrel.

Dr. Dana, nevertheless, insists upon the value of lime as a destroyer of sorrel or a preventive of its growth; and explains its operation in this way. The soil contains, he says, weak organic acids. Plants transform these weak organic acids into oxalic acid. By applying sour muck, filled with weak organic acids and their basis, to soil, we supply it with the food of sorrel. If the acid is fully neutralized, sorrel grows not. If you supply the weak organic acids freely, sorrel grows. "The doctrine is, *neutralize* the *free acids*—take the sour out of the soil, and sorrel grows not." These acids may be neutralized by lime. Hence by the application of lime in sufficient quantity the growth of sorrel may be prevented—the plant may be starved. Dr. Dana supposes the oxalic acid to be formed in the plant, not by direct combination of its elements (oxygen, carbon and hydrogen,) but by extracting from the soil some other organic acid containing the same elements in other proportions, and by the vital power of the plant adding to or abstracting from this organic acid a proportion of one or more of these elements. He further supposes that these organic acids are taken up by sorrel *only* when the acid is combined with an alkali in such proportion as to form an *acid salt;* and therefore, if these *acid* salts in the soil are converted into *neutral* salts, by the addition of alkalis to the soil, then the sorrel will no longer find its proper food, and must perish. These, if I understand Dr. Dana correctly, are his doctrines on this subject. They are highly important and deserve much consideration. The state or condition in which the food of plants is taken up by them from the soil, has not been very satisfactorily shown by chemists and physiologists. The elements of that food are easily demonstrated; but the proportions in which they are combined, at the moment when they enter the roots of plants and before the vegetable vital power has begun its operation upon them, is not so easily demonstrated. The process of growth and nutrition is carried on out of our sight. There is an agent at work (life) in that process, controlling every thing, directing every thing, which the chemist cannot see where it is, nor carry into his laboratory for examination. He cannot collect it or confine it. He cannot exhibit it to any of our senses, either in form or operation; and all his reasonings founded upon experiments and analyses in his laboratory, proceed upon the supposition that no such agent exists. In this uncertainty as to the conclusions which chemists are to make from their researches, it is not at all surprising if they are found to differ from each other —if Liebig for instance, should maintain that plants take up the nourishment which they derive from the soil, in the form of carbonic acid; and if Dr. Dana should maintain that they take it up in the form of geine variously combined, without being converted into carbonic acid. Which of these eminent chemists is right, it would be presumptuous in me to undertake to pronounce. It is not perhaps very important, in the present inquiry, which is right. For the present purpose it will be taken for granted that Dr. Dana is right and Liebig wrong; and that plants are nourished by taking up from the soil organic substances, in various states of combination with each other and with inorganic bases; and that this is a general law of vegetable physiology. The question then arises, whether the growth of sorrel is governed by the same law and carried on by the same process as the growth of other plants; or whether nature, as Dr. Dana supposes, has so constituted that plant that it can grow only when its food is presented to it in a peculiar form, such as is not required by other plants—that is to say, whether sorrel can be nourished only by *organic acid* salts, while other plants may be nourished by *organic neutral* salts, and various other combinations of the elements of their food. If Dr. Dana expects us to yield assent to his peculiar (perhaps I should add novel) doctrine on this subject, it would seem reasonable that he should give us the *facts* on which his theory is founded. It would have been gratifying if Dr. Dana had stated what are the *weak organic acids* of which he speaks—what are the *acid salts*, of which he speaks; and if he had described some experiment which he has made, or some fact that he has observed, which prove an *organic acid salt* indispensable to the growth of sorrel. In such cases it is pleasant for us to pass our own judgments, weak or imperfect as they may be, upon the theories which chemists lay before us. We must, I am aware, take many things upon trust—upon authority, and Dr. Dana is good authority for the chemistry of agriculture. But still fact is better than authority. Are there any facts which go to throw light upon this subject? It is believed that there are; and it does appear to me that a fact stated by me in the article published in the New-Haven periodical, and upon which Dr. Dana in his letter made some comments, furnishes good reason to doubt whether his theory is well founded. That the application of the fact may be fully understood, Dr. Dana's theory should be again stated. It is, that sorrel will not grow without the presence in the soil of *organic acid* salts—will not grow if the *acid* in those salts is *neutralized.* The fact alluded to is as follows: "In the neighborhood of New-Haven is a kiln for burning oyster shells, set into the side of a knoll, composed of coarse sand and pebbles [cobble stones] which have been water-worn, and washed clean of all fine matter. Nothing can be more barren than this sand. It has been drawn out of the hill and levelled off around the mouth of the kiln. Here the burnt shells have been spread, slaked, and have remained till carted away for manure. There has been left on the surface of the sand a coat of lime of considerable thickness, which has lain there for a few months past undisturbed, the burning of shells having been suspended. A few weeks ago [that is just before the time of writing the former article] I went to the kiln, and found sorrel growing, with great luxuriance, through the coat of lime—which in one place was two inches thick about a bunch that was particularly thrifty." To avoid the inference made from this fact, Dr. Dana says, the lime being *on* the soil did not furnish a sufficiency of lime water or uncombined alkali to neutralize the organic acids in the soil below; and further, that the small portion of lime that has entered the soil "has caused the inert vegetable matter to become acid in a greater degree than the lime can saturate. It has formed with it an *acid salt*. In this salt sorrel finds its food." Now I have no means of measuring the quantity of uncombined lime that has been dissolved and carried into the soil below it, around the mouth of this kiln. Large quantities of shells have been hauled out and slaked there. Occasionally, the lime has laid there for days, before it was carted away. It has at no time been wholly taken away. The rains as they fell found more or less of uncombined lime lying on the surface of the ground. Some of the lime must have been washed into the ground by every considerable rain. One would naturally suppose lime enough must have sunk into the soil to saturate a pretty large amount of organic acids. But it may be asked Dr. Dana, what organic acids were there in this soil, to be neutralized? What inert vegetable matter is there, to become acid? The reader is requested to look again at the description above given of the soil where this lime was laid, and where sorrel grew—water-worn cobble stones, and water-washed, coarse [silicious] sand. If vegetable matter is there, it must exist in an exceedingly minute quantity. If organic acids are there, in any quantity, how came they there? I have very lately been to the kiln, and will add a further fact. Some young plants of sorrel, evidently from seed the past season, were found growing near the mouth of the kiln. One plant was growing in a body of slaked lime, which appeared to have lain long enough to become a carbonate. Tracing the roots with the utmost care, I could not follow any of them below the lime, which in that particular spot was from 6 to 7 inches deep. In short, here was a plant of sorrel growing in carbonate of lime, without any apparent vegetable matter. But according to Dr. Dana's theory the spot where this plant was growing must have contained organic acids in the form of acid salts. This body of lime, laid there warm from the kiln, in an uncombined state, 6 inches thick, was not sufficient to neutralize the organic acids contained in, and formed from the inert vegetable matters within its own mass. Dr. Dana may explain this; probably he can do so satisfactorily to his own mind, and perhaps to that of others; but it is beyond the skill of most of us unlearned farmers to make the explanation. This is all I have to say upon the *soundness* of Dr. Dana's theory. To render any further discussion upon this point, by me, profitable to your readers, requires a better acquaintance with agricultural chemistry than I possess.

Let it be admitted that Dr. Dana's theory is correct, and that if lime enough be applied to the soil it will prevent the growth of the sorrel, are there not difficulties in reducing this theory to practice, which farmers may find insuperable? And will the application of lime be what your correspondent Mr. Billings inquired after, the "best method to rid the soil of sorrel?" According to Dr. Dana's prescription the lime must be applied in such a dose as "fully to neutralize" the organic acids in the soil. "If you only *partially* neutralize, says Dr. Dana, you supply the sorrel with its natural food." Here there is one rather serious practical difficulty; that is, to know what quantity of lime to apply. It would be a great disappointment if the farmer, having been to considerable expense to procure lime to *destroy* his sorrel, to find he had only been supplying the weed with additional food—that instead of preventing its growth he had made it grow the better. Soils differ much from each other in the amount of organic matter which they contain; the same soil contains this year more or less than it did the last. In order to apply the lime in the precise quantity proper to cause the destruction instead of the growth of sorrel, it seems necessary to know exactly what amount of organic acids exist in the soil, and also the exact amount of inert vegetable matter that may be operated upon by the lime, and the exact extent to which that operation will go in generating acid salts. All this is far beyond the skill of the generality of farmers.

Here let me state an experiment of my own made some years ago, at a time when I held to your doctrine of neutralizing the oxalic acid for the purpose of destroying sorrel. There was a piece of ground containing about 100 square rods, overrun with sorrel. It was concluded to give one-half of it a thorough liming. Accordingly 60 bushels of oyster shell lime, just burnt and directly from the kiln, were spread over one-half the piece and *plowed in*. The other half received a dressing of leached ashes and stable manure. The whole was planted with corn. *I could see no difference in the growth of sorrel on the two parts.* But the corn crop on the limed half was nearly ruined. Here then, according to Dr. Dana was an under-dose of lime—192 bushels to the acre was an under-dose for sorrel, but, as the event proved an over-dose for corn. Had there been lime enough applied, there can be no doubt the sorrel would have disappeared; but would not every thing else have disappeared also? It may well be questioned whether it is a possible thing to apply lime in such quantity as to destroy sorrel, and at the same time leave the soil in a state, fertile for other crops. It appears to me there is more nicety and precision required, in proportioning properly the lime to the acids, than can be put in practice out of the laboratory, in the coarse manipulations of the field, by men untaught in chemistry. Before Dr. Dana's theory, supposing it to be sound, can be made available for the farmer's benefit, it seems necessary that he or some one should give us some plain and definite rules for the destruction of sorrel by the use of lime—that we may know with some degree of certainty, in what quantity we are to apply it in the very diverse soils found in our country, and in the varied condition of the same soil in successive years. Until these rules are furnished, allow me to give in answer to Mr. Billing's inquiry, "what is the best method to rid the soil of sorrel," the result of my experience in the matter. Sorrel spreads, as you well know, by long stringy roots, running just under the surface of the ground. On these roots, for every inch or half inch, spring out buds which grow up into leaves and stems. The buds are formed principally in the spring and fall months—and *there is a pause in their growth about midsummer*. Plowing the ground and turning over the roots, while the buds are growing or ready to grow, that is in the spring or fall, has no effect to kill them. Hence, putting in a spring crop (not tilled) like oats, or a fall crop, like rye or wheat, tends rather to spread the sorrel than subdue it. But if the ground is thoroughly broke up *about midsummer* the sorrel is pretty apt to die. Hence a crop of buckwheat, which is sown in July is very effectual; but a crop of Ruta Baga, sown in the same month, and kept clean with the hoe or cultivator, is a still better destroyer of sorrel. For the same reason, if the roots of the sorrel are broken, and *the leaves cut off through the month of July*, as may be done in tilling a crop of cor[illegible] sorrel will generally perish. If it comes up from seed, it is as easily killed by hoeing as any weed, *provided the hoeing be done soon after the plant comes up*, and before the horizontal roots have begun to run. If the sorrel, in previous years, has gone to seed upon the land, it will be necessary to keep it under cultivation long enough for the sorrel seeds in the soil to spring up and be destroyed.

NOYES DARLING.

New-Haven, Ct., Feb. 1, 1844.

INQUIRIES ABOUT CLOVER SEED.

A correspondent wishes to know what time it is best to sow clover seed on land that is in wheat. We believe that it succeeds well, sown either on some of the last snows of winter, or soon after the frost is out of the ground in the spring, while the soil is soft.

Another correspondent wishes to know the proper quantity of clover seed to be sown to the acre. We think the quantity varies from 8 to 12 lbs, or from 4 to 6 quarts—but the quantity of this seed should be varied according to the quantity of other seeds sown with it. As to machines for cleaning seed, we refer 'H. D.' to an article in our Jan. no.

LETTER FROM SOLON ROBINSON,

To his friend Richmond of Staten Island.

Much Respected Friend—Your letter in the Cultivator of the present month, has been read with much pleasure by me, and I hope equally so by the thousands of readers of that paper: who I also hope will be pleased to meet their old friends and acquaintances in the new dress that friend Tucker has very properly put on. This method that you have adopted of interchanging facts with one another as individuals, seems to me to be a very familiar and happy way of conveying useful and amusing information to the public. Your letter too is a most complete illustration of my own theory, that if we will it ourselves, we can always find an abundance of material, out of which to work up a letter that is not only entertaining, but conveys much useful instruction. To me it sounds like the conversation of an old acquaintance from the land of my birth:

The land of rocks, and hills, and gravelly knolls,
  Stone walls, and wells, where "oaken buckets" swing;
Where rivers rapid run, and where tide water rolls,
  And back on mem'ry's page the scenes of childhood bring.

For among the rocks and hills of Connecticut, I was born. Although you probably thought little of doing so when you wrote, yet your letter conveys much geological and geographical information. It tells me too, that some of the inhabitants of my native state, like many others of all other states, are actually advancing backwards in civilization, when they strike from their vocabulary an ancient historical name, because it is Indian, and sounds barberous in our delicate ears. But we differ in taste. Now to me,

There's music in the soft sounding name of "Saugatuck,"
While "Westport" harshly sounds of traffic, trade and truck.

But from your description, I judge that Mr. Ketchum in the improvement of his farm, has advanced the other way; and I doubt not that it would be useful for some western farmers, who do not now even do as much as Mr. K. used to do, make the value of a new pair of boots a year, to visit his farm and learn a lesson of improvement. But far as your country is in improvemens behind what it may and will profitably be brought to, it will be many, many years before ours will be what yours now is. The west is so vast in extent and fertility, and we are so prone to run over a great deal, instead of cultivating a little land, that I despair of a life long enough to see real improvement begin, much more be brought to that successful issue which you have so pleasingly described upon the farm of Mr. Ketchum.

Over a vast extent, in the region of country where I live, stone walls will never be built for fencing; for there are no stones except scattering boulders, principally granite, which have been wafted here upon their ice boats, from a far distant, and to me unknown locality, and lie scattered wherever their frail conveyance melted beneath the rays of a warming sun. These stones as they lay upon or near the surface, are a little detriment to the plow, but are easily removed, and will always be valuable to the owner of the land, and well worth his care in collecting and laying up till time of need. And in some large districts, even this small supply of such a useful material, is entirely lacking. Even where most plenty, they are of such a rough uneven shape, and exceeding hard quality, that I would defy the superior accomplishments of the celebrated Yankee stone wall builder, whom you mention, to lay them into a decent looking stone wall, fire place or well; so they are seldom used except for underpinning. In the first settlement of the country, when brick cannot be obtained, a very good fire place and hearth is made by pounding clay a little damp, into a compact mass, the shape that is required for the fire place, while the chimney is built of sticks and clay, which if well done, costs but little labor and lasts for years. But that is more than I can say of the wooden walls of wells, for at first they give our "hard water" a very ancient and bilge water like smell, and by the time that is well over with, the wood begins to decay, and which I have no doubt is one of the many removable causes of sickness which is wrongly charged to the unhealthiness of the climate. Also the sinful carelessness in which a great portion of the inhabitants permit themselves to live in cold, open, damp, uncomfortable houses, is the cause of many a day of suffering from fever and ague. Your profession, as well as long experience, has taught you what all had ought to learn, that we are less liable to take cold and contract disease when "camping out" in the open air, than we are while living in what we are pleased to call a house, through the walls and roof of which, the old cat and all her kittens can go without let or hindrance. And in such houses, a vast majority of the inhabitants of the west *stay*, and not only for a season, but year after year, using water from such wells, or what is more common, from some hole in the ground that is familiarly called "the spring," (on account I suppose of the frogs that spring into it,) and occasionally going without bread, because it is too much trouble to go to mill; doing without potatoes, because they were to busy to dig them before they froze up; doing without pork half the year, notwithstanding they had a thousand and one hogs, but they were in the woods, and did'nt come up; and as a substitute, living upon fresh beef, green corn and unripe wild fruits, and ten thousand et ceteras of the fever breeding family, and as a most natural consequence, shaking with the augue so much of the time that they have no time to build stone walls, drain peat swamps, build barns and houses, and of course they have no money to devote to improvement of lands, while there is so much land for sale, every spare dollar is devoted to a further accumulation of acres, to lie like those already owned, idle, untilled and unproductive; or if tilled, quantity and not quality of tillage, seems to be the very height of ambition among western cultivators.

Do not think that this is an over-wrought picture. It is not a week since I visited one of my friends who owns fifty cows, whose good wife had to make an excuse to mine that she had no cream for her coffee. And this arose wholly from the prevailing western epidemic—carelessness. And do not imagine that your friend Solon is a singular exception to this all-pervading disease.

Although my log cabin is rather "aristocraticly comfortable and convenient," and my well is walled with brick, with a pump, &c., and I never was out of pork and potatoes since my first winter here, yet I have sometimes looked in vain for my hogs in the woods, and bought land when I had much better been improving that already owned; yet I keep clear of the fever and ague, and candidly believe that this country is generally as healthy as all new countries usually are. The soil is extremely productive, yet it must be acknowledged that few of us at the end of the year are any better able from the profits of farming, "to buy a new pair of boots," than your friend Ketchum used to be, while pursuing the same careless, skinning system of farming. It is true, that manuring our soil produces but little present advantage, but the time will come when the waste of it will be seen. One reason, perhaps the greatest one, why a more stable system of farming is not pursued in this country, is because that not one person in a hundred feels as though he was working for himself and children; such is the universal all-pervading disposition to change. There is no certainty if a man makes improvements this year, that he will enjoy them next; for the *fashion* of "selling out," and making a new location, is so strong, that no one can resist it; so that it may be said that nearly the whole of the western population are afloat, with sails unfurled and anchors tripped, and ready to be off with the first favorable breeze that blows. If then you ever travel through the west, bear this in mind, that it may serve as an explanation why you see so few, such solid and permanent improvements as those you have described upon the banks of the Saugatuck. How seldom will you see a synonym of these good roads that you mention, while traveling over this country. For the same neglect of improvement is painfully visible upon the roads as upon the farms. But you must also bear in mind that we are yet in our infancy, and that every thing is to be created anew. That in buying a farm, you get a perfect naked piece of smooth prairie, covered with a thick strong sod, that requires a strong team of three or four yoke of oxen to break up to advantage; and this sod requires several years to rot before it becomes perfectly mellow for tillage. And how much is required beside the breaking up of the ground

before such a tract of land is justly entitled to the appellation of farm. What a different aspect will this country present when it has been so long settled as that you have described. Vast tracts of the prairie will be cultivated, but without fence, and timber will be grown for fuel and building. The locust that you mention, grows most luxuriantly upon this soil. No doubt that and other timber can be grown to great advantage and profit. Some of the numerous marshes will also be found to afford combustible turf; and through a great part of the Illinois prairies, stone coal can be conveniently obtained. But I must close, for my sheet is full, and the loss of the franking privilege warns me not to tax my friends with a double postage while that upon a single sheet is exorbitantly high. I thank you for your sympathy for my removal from an office that I endeavored to use for the public good. Shall I hear from you again soon? I remain your friend,
Solon Robinson.

Lake C. H., Ia., Jan. 20, 1844.

AGRICULTURAL CHEMISTRY.

Lectures on Agricultural Chemistry and Geology, by Jas. F. W. Johnston, M. A. &c. a new and enlarged edition, in 2 vols. 8 vo. pp. 434 *and* 405. *Wiley & Putnam, New-York,* 1843.

Editors of the Cultivator—Having called the attention of young farmers to Liebig's Familiar Letters, in a preceding communication, your correspondent in noticing the above entitled work, thinks he is doing them a service, provided he can persuade them to read as well as to labor, to refresh the mind as well as the body. In the ordinary state of farming operations we go "from labor to refreshment." But the refreshment is *animal* and not *intellectual;* it nourishes the *body* and not the *mind.* We want to rear a generation of intelligent farmers who are hereafter to wield the destinies of this great country, and prevent its administration from falling into the hands of intriguing demagogues, or ignorant disorganizers.

Youth is certainly the best period to study and improve in knowledge, but we do not all have the time, the opportunity, or the impulse, so to do in our younger days. Deficiency, however, may be made up by diligent application in after life, when we see and feel the necessity of acquiring information. Adults and farmers may think it childish and effeminate to read and study, but books are not all published for children or females to read. Works on agriculture are as much adapted for our improvement as those on law, divinity, or the arts, are for other professions and employments. As one among cultivators of the soil, I must confess that what I know on this and other subjects, has been acquired by reading, study and inquiry, since I left school. This reminds me of what a teacher once told me, that I did not come to him to be instructed !! It is my duty said he to teach you the elements of knowledge, and to point out the path, the method, and the books by which you may hereafter improve and instruct yourself.

Now then if the young farmer desire to improve himself, let him read Liebig's Familiar Letters, and read and study Johnston's Agricultural Lectures, as designated at the head of this article, and if he do not understand half their contents, I predict he will rise from the perusal, satisfied with the necessary expenditure in the purchase, ($1.25) pleased with his improvement and mental refreshment.

In referring to the first edition published by Wiley & Putnam, in Feb. 1842, we find that the work was not then complete, as our copy contains only eight lectures and a short appendix. The new edition now before us is in two handsome octavo volumes, divided into three parts. The first parts treat, of the organic elements of plants in eight lectures; the second of the organic elements of plants in five lectures; and the third part, of the improvement of the soil by mechanical means and by manures, in five lectures. Added to these is an appendix containing numerous and detailed experiments made in England in 1841 and '42, on various crops with saline substances as manures, or fertilizers with manures, such as common salt, Glauber's salt, soot, sulphate of ammonia, sulphate of magnesia, nitrate of soda, nitrate of potash, caustic lime, carbonate of lime, silicate of potash. These substances, together with many others, were experimented upon singly or in duplicate and triplicate combinations, and the entire appendix contains a mass of information in tabular forms, with remarks, highly valuable to all who seek information as to their application and utility to the crops to which they have been applied.

To the practical farmer the appendix is perhaps the most valuable part of the work, as a test of that which is theoretical; and as the experiments are condensed it is easy to refer to them if we are desirous to repeat them in this country. The writer of this article has within the last two years made experiments on some of these substances, but without the benefit of Professor Johnston's work. With it and the knowledge of what has been done elsewhere, they may be repeated or modified with advantage.

We should like to make some extracts and remarks upon the text of the work under consideration, if they did not take up too much space in the columns of the Cultivator. First then on the subject of Labor.

Labor, bodily labor, health-giving muscular exertion, is too often looked upon as disgraceful even here in the north, but more so as we travel south of Pennsylvania. Instead of looking upon labor as a disgrace or a curse, we esteem it as a *blessing,* as the human frame is not constituted for sloth or idleness. We agree with our author, who says: (Lect. 2d, p. 32, vol. 1,)

"But set man free from the necessity of tilling the earth by the sweat of his brow, and you take from him at the same time the calm and tranquil pleasures of a country life—the innocent enjoyments of the returning season—the cheerful health and happiness that wait upon labor in the free air and beneath the bright sun of heaven. And for what? only to imprison him in manufactories, to condemn him to the fretful and feverish life of crowded cities."

Aye, my young countrymen and fellow laborers in rural employments, the "*fretful and feverish,*" and I may add *the artificial life of large cities,* is destructive of health and calm enjoyment. Let us not be deterred from industrious exertion, from bodily labor, because it is obnoxious to some. Bear in mind, that

"Honor and shame, from no condition rise,
"Act well your part, *there* all the honor lies."

Let us call your attention to another subject. You will find by reading Johnston and other publications relating to agriculture, and the growth of vegetation, that mere theorists have frequently drawn hasty and erroneous conclusions from a few isolated facts. Some for instance have made plants grow and increase in weight in water only, and hence concluded that water was the constituent and necessary ingredient in their nourishment. Others found that all plants increased in growth by withdrawing something from the atmosphere. Others again that they absorbed water and air from the soil by their roots, and so they were nourished and increased in growth. All these looked upon the soil as a mere mechanical mixture only necessary to sustain trees and plants in their position. Later writers have corrected their errors. Let us see what our author says on this subject:

"We have seen reason to conclude that while plants derive much of their sustenance from the air, they are also fed more or less abundantly by the soil in which they grow. From this soil they obtain through their roots the carbonic acid which is continually given off by the decaying vegetable matter it contains." (Vol. 1, p. 201.)

The reader may see more in detail (p. 83) how the vegetable matter increases; and how (pp. 84 and 85) plants are partly supported by the air, and partly by the soil. Hence when we remove a crop from the field, we remove a portion of the soil, and disturb the equilibrium of nature, (Liebig, Familiar Letters,) to restore which we must apply manure.

"Though manures in the soil act immediately thro' the roots, they stimulate the growth of the entire plant; and though the application of a top-dressing may be supposed first to affect the leaf, yet the beneficial result of the experiment depends upon the influence which the dressing may exercise on every part of the vegetable tissue." (Vol. 1, p. 146.)

Again on the subject of manures, practical men as well as writers, have differed as to the quantities, the quality, the time and the manner of applying them to the soil, but more particularly as to the value or utility of the various ingredients now employed singly or in combination with manures. Johnston comes to the following conclusion on some of these points, showing us what is requisite in the soil, and consequently what our manures should contain:

"Thus, (says he) if some ascribe the fertility of the soil to the presence of the alkalis in great abundance, others to that of the phosphates, others to that of lime, others to that of alumina, and others, finally, to that of vegetable matter in a soluble state—all these extreme opinions are reconciled, and their partial truth recognised, in one general principle, that *a soil to be fertile must contain all the substances which the plant we desire to grow can only obtain from the soil, and in such substance as readily to supply all its wants; while at the same time it must contain nothing hurtful to vegetable life.*" (Vol. 1, p. 420.)

This brings us to remark that farmers must stick to the old method of making barn yard manure, which in its animal, vegetable and saline substances contains most of the essential ingredients for the nourishment of plants. We must not rely on any one saline ingredient highly recommended, nor be carried away with the lauding and puffing of some factitious ingredient presented as a substitute for all other manures. We should rather have said the improved method of making barn yard manure, such as is described in Mr. Gaylord's Prize Essay in the Transactions of the State Agricultural Society (vol. 2, p. 65.) To our manure heaps may occasionally be added lime, potash or other fertilizing substances as observation and judgment may direct.

But let us keep within bounds and conclude by saying that on the subject of manures, animal, vegetable, saline, and factitious, Johnston's Lectures contains a mine of wealth for A Practical Farmer.

Staten Island, Dec. 23d, 1843.

ANIMAL PHYSIOLOGY.

Messrs. Gaylord & Tucker—No department of rural economy is probably less understood, or more deserving of consideration than that of animal physiology. There are in the state of New-York alone not far from six millions of sheep, two millions of cattle, and as many swine kept, except working oxen, for the sole purpose of transforming cultivated plants into mutton, beef, pork, lard, tallow, butter, cheese and wool, in that way, which will yield to the husbandman the largest return for his land and his labor. According to the census returns of 1840, the crop of hay grown in this state the year previous, was worth $30,000,000. And as every farmer knows that there are nearly twice as many acres in pasture as in meadow in New-York, it will be within the truth to estimate the whole grass crop of the state at $60,000,000. Will the intelligent reader answer this plain simple question: Do the cultivators of the soil in the Empire State now realize the largest practical return in valuable products, from the entire *raw material* consumed throughout the whole year, by these millions of domestic animals? If they do, then we have already attained to that happy perfection in the science of physiology beyond which improvement can go no further!

It is with pain and mortification that I see so many legislators and men of influence, unwilling to aid in any well directed public effort to open the book of nature, so that every farmer in the state may see, read and understand *how* it happens, and *why* it is, that one sheep can elaborate twice as much muscle, tallow and wool, from a given amount of food, as another? The same causes which have so developed in preceding generations, the woolforming organs of Mr. Corning's 130 Cotswold ewes, that they are now annually elaborating 8 lbs. of good wool per head, would, if judiciously made to operate on the six millions of sheep that clip per head but 2¾ lbs. of wool, so improve the action of their capillary organs, as to give their owners twelve million pounds more wool than they now get, and at the same cost of land and labor. A love of truth, and a deep sense of the importance of my subject, compel me to say that our farmers generally manufacture very *poor* and *defective* machines for transforming grass, hay and roots, into mutton, tallow and wool. I can not now command the time to write an elaborate essay upon the anatomy and physiology of sheep; and demonstrate, as I think I can, how it happens that more than 50 per cent of the elements of wool, tallow and muscle, put into the sheep's mouth, are needlessly lost.

Many of our practical agriculturists do a little better in the manufacture of living machines for transforming grass, grain and roots, into beef, butter, cheese, pork and lard. The average loss from the needless waste of the *raw material* in our cattle and swine is, however, at least 30 per cent. Indeed, how can it well be otherwise, when not one farmer in a thousand knows what food is best adapted to the production of muscle and fat, or of butter and cheese? Not one farmer in a thousand knows how to *alter* and *improve* the ceaseless action of any organ in the animal system, so as to make it not only perform more work in a given time, but to do its work, or if you please, to discharge its peculiar function, far better than before.

The arteries that convey the elements of milk to the lacteal gland of the cow can be increased, both in number and size. The gland itself can be made to expand its surface, and multiply all its secreting vessels, which separate milk from the circulating blood. A large portion of milk with its dissolved butter and cheese, are carbon, water and nitrogen. By a serious defect in their organic structure, (which can be removed in the course of a few generations by skilful management, and scientific breeding) some cows expel daily from their lungs 70 ounces of carbon and water in proportion, which come from the food of such animals, while circulating in their blood vessels. Others will get along quite as healthily and give off through their lungs from their circulating nourishment, only 50 ounces of carbon and water to match; retaining the 20 oz. of carbon, and its accompanying ingredients, for the manufacture of good rich milk.

Whatever may be the precise value of the grass, hay, grain and roots, worked up annually into beef, pork, butter, cheese, mutton and wool in the great state of New-York, is it not plain that genuine science can aid the mere muscular toil of *eternal hard work*, so as to achieve a much greater good in a given time? If so, then kind reader do send down to your servants, the Legislature, *one petition* for the establishment of a State Agricultural Institute, where shall be taught 500 young practical farmers, coming equally from all parts of the state, all the natural sciences that will render agricultural labor *more profitable* and *more useful* to the community at large. We annually expend thousands of dollars to teach thousands of young men how to acquire wealth by other means than productive labor—riches called into existence by the hard work of other men—why shall not something be done to teach our sons, not only how to live better by productive labor than they now can; but also how to keep what their labor produces from the "itching palms" of those so well instructed to live by pursuing some branch of unproductive industry? Why create a state of society that now practically compels the great producing classes, to toil on day by day through life, at from 50 cents to one dollar, while those that produce little or nothing, are paid a high bounty as the reward of comparative idleness? When will our people learn that the knowledge of the *few*, no matter how profound, can never compensate for the ignorance of the *many?*

D. Lee.

James Gowan, Esq., near Philadelphia, lately received from the Phila. Soc. for Promoting Agriculture, premiums for the following crops: Sugar beets, 1078 bushels per acre, at 60 lbs. to the bushel; sugar parsneps, a fourth of an acre, at the rate of 868½ bushels per acre; field carrots, 687 bushels per acre—both the latter weighing 40 lbs. to the bushel.

PHILOSOPHY OF WOOL.—No. II.

YOLK.

Messrs. Editors—This peculiar substance is so called abroad, from its adhesiveness and color; but with us it is termed *gum,* an appellation derived from its glutinous properties, quite as appropriate. It is apparent in the fleeces of fine wool sheep, especially the Merino, at all seasons of the year, but very much so in the winter and spring; and although diffused through the whole fleece, yet such is its profusion in the Merino, that it is observable in detached concrete particles, resembling ear wax. According to the chemical analysis of Vanquelin, it consists principally of a soapy matter, with a *basis* of *potash;* a small quantity of *carbonate of potash;* a small quantity of *acetate of potash; lime in an unknown state of combination;* and an atom of *muriate of potash.* Its peculiar odor, well known to those familiar with the fleeces of Saxon and Merino, is derived from the infusion of a small quantity of *animal oil,* and is in every respect a true soap, which would permit of the fleece being thoroughly cleansed by the ordinary mode of washing, were it not for the existence of this uncombined fatty or oily matter, which remains attached to the wool, and rendering it glutinous, until subjected to the process of scouring by the manufacturer.

There is a diversity of opinion as to the uses of the *yolk* or *gum;* while very many through ignorance, imagine it a detriment to the wool, which, however, is a decided mistake. It is a peculiar secretion from the glands of the skin, acting as one of the agents in promoting the growth of the wool, and by its adhesiveness, matting it, and thereby forming a defence from the inclemency of the weather. From accurate observation, it has been ascertained beyond doubt, that a deficiency of yolk will cause the fibre to be dry, harsh and weak, and the whole fleece becomes thin and hairy; on the contrary, when there is a natural supply, the wool is soft, plentiful and strong. The quantity is depending on equability of temperature, the health of the sheep, and the proportion of nutritive food it receives.

Although it is found in some degree in the fleeces of every variety of sheep, such is its excess in the Merino that it causes dirt to collect on the surface to such a degree as to form an indurated crust, with a hue resembling the thunder cloud. This excess, although as already remarked, no way injurious to the fibre, yet in one sense it is so to the manufacturer, from the uncertainty as to the amount of loss sustained by cleansing. Hence it is that the European manufacturer refuses to purchase the Spanish Merino wools, without being thoroughly washed with soap, which is performed after the fleece is shorn, and even then the wool shrinks by the manufacturer's mode of washing, generally about 10 per cent. It is from this cause too, that the American manufacturer, from increasing competition, has latterly become more cautious in his purchase of home Merino wool, the redundancy of glutinous matter and its unavoidable attendant, dirt, causing so large a proportion of the weight of the fleece.

It has been observed that temperature has an influence in determining the quantity of yolk; hence, the equable and mild climate of Spain is favorable to its production; and although the Escurial Merino is the parent stock of the Saxon, (the Escurial possessing it in a less degree than the Paular and other varieties, yet from the opposite character of the climate of Spain and Saxony, it is found in a diminished quantity in the Saxony wool. This breed, however, when kept in fair condition, has the requisite supply to give additional softness, pliability and strength to the fibre, without subjecting the manufacturer to the same degree of uncertainty as to loss from cleansing, the dirt collecting much less on the surface than with the Merino.

On the authority of Mr. Youatt, the wools of several breeds of sheep in the south part of the kingdom abound in yolk in great abundance, so that a fleece, unwashed on the back, will lose one-half of its weight by thorough scouring. A deficiency of this substance is perceptible as progress is made northward; and in Northumberland and Scotland, it is not uncommon for the farmer to supply its loss by means of *smearing* the sheep, immediately after shearing, with a mixture of *tar and oil or butter.* To confirm the propriety of this, which will also afford additional testimony of the virtues of yolk, I will quote a recorded fact from Mr. Bakewell, the distinguished sheep breeder. "An intelligent manufacturer in my neighborhood, who kept a small flock of good wooled sheep, informed me he had adopted the practice of rubbing the sheep with a mixture of butter and tar. He could speak decidedly to the improvement the wool had received by it, having superintended the whole process of the manufacture. The cloth was superior to what ungreased wool could have made, if equally fine; it was remarkably soft to the touch, and had a "good hand and feel," the appearance of the threads being nearly lost in a firm even texture, covered with a soft full nap."

The additional value, then, the yolk imparts to the wool, affords a useful lesson to the wool grower, to take such care of his sheep as will best supply the needful quantity. Equability of temperature being one requisite, he should protect his flocks during the winter season; and good condition being another, wholesome and nutritious food should not be spared.

FORM OF THE FIBRE.

The fibre of wool is circular, differing materially in diameter in the various breeds, and also in different parts of the same place. It is generally larger towards the point and also near the root, and in some instances very considerably so. Mr. Youatt's description cannot be simplified or improved. "The fibres of white wool, when cleansed from grease, are semi-transparent; their surface in some places is beautifully polished, in others curiously encrusted, and they reflect the rays of light in a very pleasing manner. When viewed by the aid of a powerful achromatic microscope, the central part of the fibre has a singularly glittering appearance. Very irregularly placed minuter filaments are sometimes seen branching from the main trunk like boughs from the principal stem. This exterior polish varies much in different wools, and in wools from the same breed of sheep at different times. When the animal is in good condition and the fleece healthy, the appearance of the fibre is really brilliant, but when the sheep has been half starved, the wool seems to have sympathized with the state of the constitution, and either a wan, pale light, or sometimes scarcely any, is reflected."

His closing paragraph is especially true. The wool of half starved sheep can be detected without any difficulty by the wool stapler and experienced buyer, and its consequent deterioration affects the price. The fibre of such wool is finer, it is true; but the numberless *breaches* injure every manufacture for which it is used. This is another illustration of the bad policy of farmers in neglecting to keep their sheep in uniform good condition. Healthy sheep will produce healthy wool, both being always the most valuable, and consequently paying the largest dividends.

Elasticity and special curve of the fibre will be noticed in the next chapter. L. A. Morrell.

Lake Ridge, Tompkins co., N. Y., Jan. 28, 1844.

SPECULATIVE HOBBIES.

Messrs. Editors—In reading an article in the London Farmers' Journal, I was struck with the following expressions, which, though designed for the meridian of England, "will answer," (as old Nath. Low used to say of his almanacs,) for America:

"How careful ought gentlemen to be who canter their speculative 'hobbies' after *pleasurable* pursuits, that they do not instigate others to gallop after phantoms that only allure them into fatal mistakes. Reprehensible too, is the man who ventures to recommend plans for public adoption of which he has not made full proof from oft repeated experiments."

Would it not be well if these principles were a little more attended to in this country? Jonathan.

Large Steer.—Mr. Rufus Lyman, Colbrook, Conn., killed a half Durham two-year-old steer, in January last, that weighed 898 pounds.

REARING CALVES.

Messrs. Editors—I would beg leave to drop a few remarks on the subject of rearing calves, having had considerable experience in that branch of rural economy. When I first commenced farming I had to pay heavy *crow rates* every year (as the term was.) I never could get my calves through the first winter without losing one or more. They would grow poor towards spring—their backs would assume the appearance of an arch—the scouers would set in, and they would die in despite of all my care and attention. Experience and observation have convinced me that *lice* was the primary cause of all the difficulty; and for several years past I have adopted the practice of destroying them in the fall, or forepart of winter, since which time I have not lost a calf. I have tried many remedies, but the best thing I have ever tried is sulphur. I take too parts of lard and one of sulphur, melt the lard, and when nearly cold mix in the sulphur, and rub it thoroughly on the parts most frequented by these troublesome vermin, and they will soon disappear. It sticks close to the hide and hair, and continues to scent until they shed their coat, and prevents any more from getting on them from other animals with which they may chance to come in contact. I keep my calves by themselves, and have a warm shelter for them to go in when they choose, in addition to as much good hay as they can eat. I give them each half a pint of oats or corn meal ground in the ear night and morning, and I never was troubled with having my calves get so fat in winter as to die with the black leg as your correspondent in the January No. of the Cultivator complains of.

Tyre, N. Y. Jan. 1844. Jason Smith.

POUDRETTE.

The following letter has been sent us by the gentleman to whom it is addressed, with the request that it should appear in the Cultivator:

New-York, 16th Nov. 1843.

Anthony Day, Esq., President of the Lodi Manufacturing Co.—Some twenty year's pretty close attention to the subject of agricultural chemistry, in England, France, Belgium, and other parts of the globe, has rendered me familiar with the nature of manures and amendments generally, as used by various nations.

For the last eighteen months, I have carefully examined your system of preparing poudrette from night soil and other fertilizing compounds, at your establishment on the Hackensack river, in the State of New Jersey, near the city of New-York, and I have no hesitation in stating that I have witnessed very important improvements introduced by you, into the manufacture of poudrette during that period, which render the compounds *far more fertilizing, than anything I have ever before encountered in this country or in Europe.*

I am not, therefore, surprised at the result of your experiment on Indian corn, grown in the vicinity of New-York, and recently exhibited at the Farmer's Club in this city. It seems that it was planted on the 27th June, 1843, during a severe drouth; that it was up two feet in three weeks: was fit for the table, as green corn, in sixty-six days, and was sufficiently glazed to prevent injury from frost in seventy-eight days. All this is easily accounted for, from the fact that your *new combination is calculated to absorb humidity, ammonia, carbonic acid and nitrogen from the atmosphere, as well as to retain these fertilizing substances in the poudrette itself, giving them out only as vegetation requires them for nutrition.* This has been hitherto a desideratum in manure. In a word, the fructifying power of your poudrette is greatly increased, its operation upon vegetable matter quickened; it obviates the effects of a long continuance of dry weather; retains the ammonia and other fertilizing gases in the soil; attracts similar gases and moisture from the atmosphere; of course ripens crops quicker; is much more lasting as a nutritive amendment, and what is of no little importance to the farmer, I see you mean to reduce the price from 40 to 25 cents per bushel. I further undertake to certify, that in your compound there is no raw peat, turf, meadow-mud, nor any other article that is not in itself *highly fertilizing*, and consequently it is adapted to every climate and to all descriptions of soil, whether calcareous, argillaceous, or silicious.

I am respectfully, sir, your ob't serv't,
W. A. Kentish.

P. S. It may not be amiss to remind agriculturists that the *best soil* is an admixture of chalk or lime, with clay and sand, which are, in reality, the component parts of loam. It is evident, therefore, that a chalky soil requires the addition of clay and sand; a clayey soil needs chalk or lime and sand; and a sandy soil, chalk or lime and clay. Where sand is not obtainable, coal and other ashes answer the purpose fully as well, but sea sand is preferable for lands some little distance from the coast, where it can be procured with facility. W. A. K.

NATIONAL FAIR AT WASHINGTON.

Messrs. Gaylord & Tucker—I observed in the last No. of your paper a writer, J. S. S., who was anxious to have a national exhibition of agriculture and manufactures in the city of Baltimore, during the great political conventions which are to be assembled there during the month of May next. I have made considerable inquiry of the Baltimoreans in relation to this proposed exhibition, and I find they are opposed to having it in that city, but will most willingly unite in a fair to be held in this city, where party politics cannot interrupt and prostrate the real objects of the friends of these great interests. We have every convenience here for such an exhibition, and it would amply repay any visitor thereto to have the facility of seeing the well arranged collections of the exploring expedition, as well as the thousand curiosities arranged in order by the enterprising commissioner of patents. I understand that the Horticultural Society of this city will hold its annual exhibition about the same time, perhaps upon the same day of the Agricultural fair; and combined, they will make as interesting a show as could be made in any other part of this country. I throw out these hints for your consideration, and I do hope you or some of your readers will give us your or their views fully upon this highly important national subject.

Washington City, Feb. 8, 1844. J. F. C.

VERMONT AGRICULTURAL SOCIETIES.

Almost every county has formed its County Agricultural Society, in accordance with a law of the late Legislature, which gives to each society formed a sum equal to that raised by itself to be awarded in premiums, to be paid out of the State Treasury. This will give a new stimulus to every branch of agriculture. Can you not send a few more Cultivators into every township in this State, and thus help yourselves and us at the same time?

Williston, Feb. 12, 1844.

O. C.

☞ We should be much pleased to send at least 15 copies to every town in the State. By clubbing together 15 copies may be obtained for $10, making them come at only 67 cents each—cheap enough, surely.—Eds.

FATTENING CATTLE WITH POTATOES.

Messrs. Editors—There is quite a difference of opinion among farmers, with regard to fattening cattle with potatoes. Some contend that when cattle are fed on potatoes they should be kept in the stable, and not allowed any water. They contend that the animals will take on fat faster, and are not so apt to scour, as when allowed to drink. My own opinion is, that cattle, whether fed on potatoes, turneps, or meal, should be turned out of the stable every morning, and suffered to drink as much as they please. Nature, in this respect, is the best teacher. I should be happy to have the experience of others on this subject. L. D——d.

Gates for Barns.—If you have any bars on your premises, substitute gates in their stead. These are both time and labor-saving fixtures, and have the additional merits of being more secure and more convenient. Winter is the time to make your gates.

RICH MILK.

Messrs. Editors—Under the head "Valuable Cow," in the last (Feb.) no. of the Cultivator, we find a summary of a statement made by P. H. Schenck, Esq. of Matteawan, of the extraordinary yield in butter, obtained by him from his cow *Emma*. Mr. Schenck's well known high standing in the community, gives us the fullest confidence in the accuracy of his representation, and a cow yielding at the rate of nearly three lbs. of butter a day, would be feebly characterized as a *valuable* cow; in truth, she might better be termed *invaluable*. Looking to the ordinary yield of butter from milk, which may be calculated at from eight to twelve quarts, according to its richness, we here find an animal giving at the rate of one lb. of butter to nine and one-seventh pints of milk, considerably less than five quarts to a pound. We have frequent instances of that amount of butter from cows yielding extraordinary quantities of milk, say from 32 to 40 quarts per diem, but very few (if any,) of so large a proportion of butter compared to the quantity of milk; in fact, on first reading the statement, I considered it unparalleled and almost incredible. Since then, however, in hunting up instances of extraordinary yields of butter, &c. I have met the following, in which the cow Emma is as much surpassed as she is before others. In Young's Annals of Agriculture, vol. XX, p. 281, it is said, "Lord Egremont has a *Chinese* cow whose milk is singularly rich; *one pint* of it on experiment, yielded as much butter, *four ounces*, as seven pints of the milk of a Sussex cow, neither being set for cream, but the milk churned directly from the cows. I (Arthur Young,) did not see this Chinese cow, but it was described to me as smaller than any Alderney —seems very fat, and as clean in the chap as any deer. This is an extraordinary fact, and seems much to confirm former observations on the quality of the milk of different cows; it is not the quantity but the quality that should be attended to; *eight* gallons of milk in one day from a Suffolk cow, are not uncommon, but the product of butter is never equally extraordinary," &c.

A remarkable Scotch cow is mentioned in the same work, vol. XXXI, p. 33, as giving 20 scotch pints of milk, which being skimmed thirty-six hours after milking, produced fifty-seven ounces and a half of butter, (English weight,) which is about twenty-four pounds a week.

Soon after Mr. Schenck's statement met my notice, I paid a visit to this remarkable creature of his, but was unlucky in not finding her liberal owner at home, and was therefore obliged to rely upon the representations made to me by the person who has her in charge.

In your notice of her, you do not mention the circumstance of her having received an injury in her spine, as appears from Mr. S.'s letter; such is the fact, and I am sorry to say it is likely to prove fatal before her period of gestation has elapsed, and I believe none of her progeny have been reserved. The injury was received, according to my informant, from the bull, and when she is made to stand up she seems to suffer greatly from its effects; when lying down she appears free from pain, and seems to have a good appetite.

She is a large rather raw boned animal, hornless, and to my eye gives no indication of possessing any Durham blood, though the Am. Agriculturist conjectures her to be three quarters of that blood. Would she be hornless were this the case? To me she appears to be of the ordinary polled breed, of which we have many specimens in the district, and generally good milkers The above mentioned Suffolk cows are also a polled breed. One or two circumstances in her history, leads me to suspect that the amount of butter obtained from her milk must be attributed not to her natural habit, but that it has been owing to a stimulated secretion induced by the injury received. One is, as her keeper informed me, that her milk was not only of a creamy consistency, but in place of a rich yellow was actually *red* in color. Again, in 1842, when she gave as much as 18 quarts of milk per diem, her yield of butter was 15 lbs.; more milk and less butter than during the past season, when from 15½ quarts, 3 lbs. 8 oz. of butter were obtained. True, in the first case her keep was only grass—probably an abundance of that, however; and in the second, besides pasture, she had night and morning, a bushel of cut hay and 8 quarts of shorts. We can hardly attribute the alteration in her lacteal secretion to this change in her diet; the food was not sufficiently rich to account for the difference in the quality of her milk. I therefore conclude that it was owing to a disease in the animal function. We find afterwards in September, with the same improved allowance, when giving 11 to 12 quarts per day, she yielded but 10 lbs. of butter per week. Yours respectfully,

John W. Knevels.

Fishkill Landing, N. Y., Feb. 7, 1844.

N. B. Will Mr. Minor, or some other manufacturer of the article, state the exact proportion of pure night soil in the poudrette offered by them for sale; until this is known, we cannot judge as to the economy of the application.

SEEDING GRASS LANDS—PROPER TIME FOR CUTTING AND METHOD OF CURING HAY.

Messrs. Gaylord & Tucker—Hay constituting the principal dependence of the agriculturist, as winter provender for horses and cattle, it is absolutely necessary he should know the proper season, and most approved mode of cutting and curing it.

Having been requested to make known the experiments I have tried and fully tested, I now submit them *pro bono publico*, with all due deference to the opinions of my seniors in agriculture.

When preparing a meadow or upland, I usually seed on wheat, sowing in the fall half a bushel of timothy seed to the acre, which is limed at the rate of three hundred bushels; and the following spring, after a moderate fall of snow, one bushel of clover seed, top dressed with charcoal dust, and rolled. From land so treated, I cut last season, three tons of hay to the acre. My practice is to commence cutting when one-third of the blossoms of clover have turned brown, and the timothy just parting with its bloom. The grass thus cut is drawn immediately into the barn, and one bushel of fine salt spread by hand thinly over each alternate layer composing a ton, as stowed away in the mow. The salt prevents mow burning, molding, &c. and the stock are induced to eat it as greedily as they would new mown grass, which it nearly resembles, as its most nutritious juices are preserved, being diffused through the stem of the entire plant at that period of its growth. If left on the ground until the seed ripens, the saccharine juice of the plant is lost.

The principal desire of the farmer should be to preserve the green appearance of his hay, and at the same time make it tender and palatable to his stock. The fermentation which ensues after it is housed, secures that object, and prevents the inevitable injury to his meadows which follows ripening grasses. By early harvesting he obtains a luxuriant growth of aftermath or rowen, almost as nutritious as the first, and as much relished by cattle, but peculiarly adapted to sheep.

It is now supposed by chemists, that the plan of keeping a large stock of horned cattle for the express purpose of manuring a farm, is an erroneous one on this account.

The ash of all grasses, contains by analysis, in greater or less proportion, according to the varieties, *Potash, Soda, Lime, Magnesia, Alumina, Oxide of iron, Oxide of manganese, Silica, Sulphuric acid, Phosphoric acid and Chlorine*, many of which substances are required in the animal economy, to form muscle, blood, horns, hoofs, etc., and are forever lost to the farmer.

If instead therefore of keeping stock for that purpose, he were to convert his straw, chaff, and refuse hay, into manure in a compost heap, by means of lime, lye, charcoal dust, &c. would he not save, without the least loss, every requisite for the ensuing crop?

Yours respectfully, R. L. Pell.

Pelham, Ulster co., Jan. 21, 1844.

☞ Dr. Thomson of Delaware, will please accept our thanks for his friendly suggestion. We like it much, and shall endeavor to carry it into effect, though it will take some considerable time to make the preparations necessary to accomplish the object in a proper manner.

THE POTATO.

A very pleasant and obliging friend, an eminent physician, once said to me, "Give me plenty of good potatoes, and I will never starve." A gentleman of talents and education, an extensive traveler on both sides of the Atlantic, April, 1836, while sitting at my table and feasting on my large, well-baked and delicious long reds, denominated them "bounties." I once heard a little fellow exclaim, "Good cracked open potatoes in the morning, Oh! how good!" The potatoe is indeed a noble and generous root—a great dietetic blessing,—and like the Indian corn, the boast, as well as the native of America. This valuable plant is said to have been originally wild, unpleasant to the taste, and poisonous; wholly unused by the Aborigines; and to have been brought to its present state of perfection by cultivation.

What I know of its history is as follows:—Near the close of the 16th century, Sir Walter Raleigh, an enterprising British nobleman, made several attempts to plant an English colony in Virginia. Once, after coasting along the fertile Guiana, entered the mouth of the grand and beautiful Oronoko, and, for purposes of discovery, sailed up that river 600 miles. That he found the potato somewhere in America, is acknowledged on all hands; but *where*, we are not informed;—probably up the Oronoko. I have of late heard of it in a wild state, somewhere on the south-west coast of South America. It is a matter of history, that said Sir Walter, about the time just named, introduced the potato into Ireland. After trying it in his garden, from the seed balls I conclude, and observing no occular domonstration of good promise, he ordered his gardener to extirpate it, as "a useless weed." On doing this he found unexpectedly, at the roots, a bushel of fine potatoes. After this, it was cultivated as an esculent root in Ireland about a hundred years, when it was, with some improvement, returned to America, and introduced as a curiosity upon the table of the Governor of Massachusetts. When a child, I learned from a very aged woman, who was a cook in said Governor's family, that she first saw potatoes there about the beginning of the 18th century, and that they were small and of disagreeable flavor. Her observation then was, "If great folks like such things as these, because they are novelties, I am sure they are welcome to them for all me." Much prejudice was against the potato, causing a very scanty cultivation of it, even so late as the war of the revolution; which prejudice is not yet entirely eradicated.

The more observable qualities of the potatoe are,

1. It does not too highly excite the human appetite. This is a grand affair in the province of temperance and health. Even the best table varieties are not liable to be eaten to excess.

2. There is probably no kind of food that has a more just and healthful proportion of bulk and nutriment. Its proportion of soluble and nutricious matter is said to be 25 per cent; whereas that of the beet is 14—of barley 83—of wheat 85—of rice and beans about 90—and peas 93. This fact renders it easy of digestion, and unlikely to surcharge the system, and produce dyspepsy; a matter by no means unworthy of sober notice and reflection.

3. The potato, like milk, contains a just proportion of aqueous substance, combined with the nutriment, that it is for man and beast, both food and drink. This is a great convenience, especially for those who labor abroad—for those who wish to fatten cattle with potatoes, while in a state of confinement—and for people at sea, where this root can be preserved.

4. It is very easily grown and cooked; of course a very cheap article of food.

5. It does not exhaust the soil like most other vegetables, *especially* oats and turneps, and leaves it in a good state for some other crop.

6. New varieties, and the best, are easily obtained from the seed-balls; taking however about three or four years to bring them to maturity, when trial and just selection may be made.

7. It is very easily preserved, whether dried like fruits or not; whether reduced to its farina or starch, or kept in its original state. It never rots without gross abuse, or exposure, and is never "strong" as it is called, I think, nor, of course, *poisonous*, without too much heat from the sun, or fire, or warmth in the cellar, or being too long in warm or hot water at boiling. If you would have the best potatoes good on your table, *then keep them shaded, moist and cool—cook them just enough, as quickly as possible, and then have them away from water and heat.* I think the potato cut up in a raw state, dried and ground into meal, should help much in any preparation of bread stuff, especially griddles and puddings. *Let it be tried.*

As to the merits of different varieties, the Chenangos or Novascotias, the Leopards, the Long Whites, the Deep Blues, *the Carters above all*, and some others, are all excellent for the table. But, *on the whole*, I prefer the Early Reds, (which I produced from the seed-ball myself,) the Blue Kidneys, and the Blue Pointers, mixed together for early growths—the Long Reds, after being acclimated, for feeding out to cattle—and the Carters for the table, after becoming ripe. These last, well cooked, approach the nearest to good wheat flour.

As to the manner of seeding, I plant about 15 bushels the acre, cutting the large ones to save seed. After trying the planting of large and small, cut and not cut, I never saw any difference in the results.

With regard to methods of cultivation, there exists much prejudice and misconception. I will give my own method, towards which I have been long approaching, *while I have, in agriculture, been endeavoring to diminish the expense and increase the profit.*

Let sward ground be generally used, after becoming well rotted either by being plowed long enough beforehand, or by growing thereon previously a crop of oats. Spread on some 30 loads of manure to the acre; *plow deep and fine*, just before planting; furrow 2⅔ feet apart very lightly, so that when the potatoes, planted about one foot apart, are properly covered with a hoe, the ground shall be left level: cover lightly, and just as deep as in your judgment will cause the seed to come up, and *no more;* hoe once at proper time, and once only, assisted by a light harrow or cultivator; but leave the ground as level as possible. If weeds appear of considerable size, mow them with the potatoe tops before hard frost, and hay the whole for cattle. All this together makes excellent hay, if well made. The later you dig your potatoes the better, if kept out of the way of frost. Should you desire the greatest present profit from well-managed *corn ground*, plant about 5 bushels of potatoes the acre, and a few pumpkins wih your Indiain corn. Peas and beans, planted in the rows, sometimes do well, without injury to the potatoes.

But do not, I entreat, furrow your ground too deeply for any seed—do not put manure in the "hill," or "hole"—do not press the ground over the seed at planting—do not plow between the rows—do not "hill up;" but leave the ground as level as convenient till harvest; for the old practices are pernicious errors, *causing much hard labor to be useless or worse.*

It is a maxim with me, founded, I think, on the dictates of nature and reason, that *where there is the most manure, there is needed the most water.* How does it seem then, to put the manure in the hole, *and then hill up*, to turn away the water from the very place where you caused it to be most needed?

I have obtained at the rate of 634 2-5 bushels of early Blue Pointers the acre. But my average crop, during 24 years, has not varied far from 200 bushels the acre.

During many years, I have not boiled potatoes for any brute animals, believing it does not "quit cost."

In 1842, I obtained from ⅛ of an acre, 26 bushels of Rohan potatoes, and rising of 6 hundred of excellent hay, by mowing all above ground, as before suggested. This hay was worth quite half as much as the potatoes.

Whoever would grow rich by farming in high cold regions, must turn his attention *much, and properly*, to grass, oats and potatoes.

Respectfully to all concerned,

EZEKIEL RICH.

Troy, New-Hamp. Jan. 30th, 1844.

LIBERALITY to the earth, is the source of its bounty.

The Garden and the Orchard

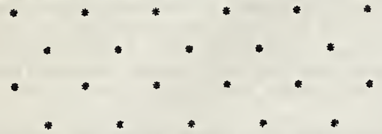
CULTURE OF FRUIT TREES.—No. 3.

THE APPLE.

In raising young apple trees, the stocks should be seedlings, and not suckers, as the latter furnish less perfect roots; and as those varieties which produce suckers most freely are chosen, they are apt to prove troublesome from the abundance which they yield.

Transplanting apple trees is generally performed with far too little care; though their hardiness will enable them to endure bad management, the thriftiness from good treatment far more than compensates all additional labor. The mode of proper transplanting has been described in a former number. Where the quantity of land is small, such care is especially necessary.

It is now satisfactorily determined that apples are a most profitable crop for feeding domestic animals; hence larger orchards are becoming desirable. Those on good land will occupy less if placed in the hexagonal form, or in equilateral triangles, thus:



For several years after young trees are transplanted, the ground should be constantly cultivated. This is easily performed so long as the trees remain small. When they become large, an occasional cultivation, with intervening crops of grass, may be sufficient for extensive orchards.

It is a common practice to neglect not only cultivation but *pruning*. Irregular and stunted trees, and small and inferior fruit, are the consequence. These may be prevented by moderate, frequent and judicious pruning, if the trees are not already old. The object is to diminish the thick growth, to increase the vigor of the branches, and to admit light and air. The best and most thrifty branches should be left, the distance asunder being as nearly equal as possible, and forming a well shaped top. The branches should be cut closely in pruning, but not so much so as to occasion too broad a wound. If the wounds are an inch or more in diameter, they should be protected by a thick coat of paint, or better by a mixture of brick-dust or whiting with warm tar. This prevents cracking, admission of moisture, and the consequent rotting of the branches. Pruning should never be done in spring when the sap is flowing, but may be performed either in winter or in summer. A sharp saw is the best tool for removing large limbs.

There are many orchards of ungrafted and comparatively worthless fruit, which might be greatly improved by converting the tops to good varieties. This is usually done by grafting into limbs two or three inches in diameter, but it is more difficult to perform, and the young shoots are much more liable to be broken off by wind, than when grafted into small branches. A sufficient number of young and thrifty shoots may be obtained in one season for grafting, by cutting off a few of the most central and larger limbs, when fresh ones will spring up vigorously in their place. As the grafted branches increase in size, the old ones are to be gradually removed.

It would be difficult, even for one extensively acquainted with the varieties of the apple, to give a complete selected list; the difficulty is increased by the great uncertainty of names among cultivators, and the multiplicity of synonyms for the same fruit. Lindley says with much truth,

"In apples, a greater confusion exists in this respect, than in any other description of fruit. This arises not so much from the great number of varieties grown, as from the number of growers, some of whom seek to profit by their crops alone, regarding but little their nomenclature. Nurserymen, who are more anxious to grow a large stock for sale, than to be careful as to its character, are led into error by taking it for granted that the name of the fruit they propagate is its correct one, and no other; hence arises the frequency of so many fruits being sold under wrong names. Gardeners, who purchase trees, become deceived by this procedure, and do not discover the error, unless they have been imposed upon by the substitution of something *worthless*, and obviously at variance with the character of the fruit sold them. This is a serious evil, to say nothing of the disappointment of the purchaser; for unless the mistake be detected at first the longer the tree grows before it is discovered, the more time will have been lost by its cultivation; and be it remembered, this time is irrecoverable."

It is care alone that can correct this evil; nurserymen should propagate for sale a smaller number of varieties on the one hand, and examine thoroughly a larger number on the other, that they may prevent confusion and mistake by the former, and improve their selection by the latter. Purchasers must be careful to obtain them from those sources most to be depended on; or if they raise their own trees, they should, if possible, obtain their grafts from trees, whose genuineness has been proved by actual bearing.

In giving a short list of apples, it is to be remembered that there are many good varieties, and that some must therefore be omitted; and to some, such a list may seem badly selected, in consequence of the many inferior fruits falsely called by the name of excellent varieties. The following list may assist the cultivator in selection:

SUMMER FRUIT.

Yellow Harvest,
Early Sweet Bough,
Early Red Juneating,
Summer Pearmain,
Sine Qua Non,
Buffington's Early.

AUTUMN FRUIT.

Belle-bonne,
Strawberry Apple,
Summer Queen,
Ramboo,
Autumnal Swaar,
Gravenstein,
Fall Pippin.

WINTER FRUIT.

Bellflower,
Swaar,
Peck's Pleasant,
Esopus Spitzenbergh,
Jonathan,
Ortley,
Baldwin,
Rhode Island Greening,
Ribston Pippin,
Newtown Pippin,
Roxbury Russet,
Tallman Sweeting,
Northern Spy.

All these are in a greater or less degree, suitable for table fruit; and some of them are also peculiarly adapted to culinary purposes. As the day for the manufacture of cider has passed away, and a far more profitable use is made of apples in feeding domestic animals, no varieties expressly for cider are given.

To those who have but small gardens, the following are more particularly recommended:

Yellow Harvest,
Bough,
Sine Qua Non,
Strawberry Apple,*
Gravenstein,
Fall Pippin,
Swaar, Baldwin,
Spitzenbergh,
Jonathan,
Northern Spy.

The uses of apples are becoming yearly better understood, and their value constantly increasing to the farmer. It is now satisfactorily proved that they are not only excellent for fattening hogs, but are equally so for feeding milch cows during winter. Horses may also be advantageously fed on *sweet* apples. For cows and hogs, the difference between sweet and sour apples is found to be far less than generally supposed. A moderate estimate of the expense of one acre of orchard, (remembering that the ground may be cultivated with crops while the orchard is young,) will show the cost at from one to three cents per bushel; their value for feeding hogs has been proved to be much greater than the same quantity of potatoes.

The Diseases and Enemies to which the apple tree is subject, are generally not formidable. It has however, sometimes serious ones to contend with. Among the chief are, 1. The Caterpillar. 2. The Borer. 3. The Canker. 4. The American Blight. 5. The Canker Worm.

---

*This variety appears to be known only in western New-York, and appears to be greatly superior to any other variety of that name. Nearly the only nursery which has furnished it, is that of Thomas & Smith of Macedon.

1. The Caterpillar.—This was formerly the most formidable evil the apple had to contend with in Western New-York, and in fact the only one of any importance. There are several species; but the only one which proves seriously injurious, appears in the spring as soon as the leaf buds begin to open, at which time it is not the tenth of an inch long nor so large as a cambric needle; it increases constantly in size for a few weeks till it is two inches long and a quarter of an inch in diameter. It then spins a cocoon and passes to the pupa state. In the latter part of the summer, it changes to a brown miller, and deposits its eggs in cylindrical rings of several hundred each round the smaller branches. Every ring of eggs destroyed in fall or winter, which may be easily done by cutting off the small shoots which hold the eggs and burning them, will prevent a nest of caterpillars next season. If left till they hatch, they are easily killed when they first appear, by a caustic or poisonous solution, as of lime, ley, or of tobacco, applied to them with a cylindrical brush on a pole. The later the operation is deferred, the more difficult the work becomes. They have much diminished of late years, but need watching to prevent increase.

2. The Borer.—This is an insect which enters and perforates the wood of the tree at or a little below the surface of the earth. In Western New-York they rarely prove destructive to the apple tree. They may be taken out by introducing into the hole they have made, a flexible barbed wire, or punched to death in their holes by a flexible twig.

3. The Canker.—This is sometimes termed *bitter rot.* It is ascribed to various causes. By some it is considered as arising from neglected culture—poorness or wetness of soil, or exposed situation. But the most probable, or the *immediate* cause, appears to be injudicious pruning and bruises. Decay generally commences at the wounds thus caused, and extends till the tree dies. To prevent it, never prune in spring while the sap is in active motion, and protect all wounds of much size from air and moisture by a coat of paint, or of tar and brick dust. The only way to cure trees already diseased, is to cut away all affected parts and apply a suitable covering to the wound. It rarely proves a serious evil in this country.

4. The American Blight, (so called,) is caused by the *Aphis lanata*, a small insect so thickly covered with fine white hair as to appear enveloped in fine cotton. It is furnished with a small bristle-like beak, with which it perforates the bark of the branches. Excrescences rise, the limb grows sickly, and perishes. Branch after branch is assailed in turn, and the whole tree ultimately dies. It is easily destroyed on young trees, and older ones if recently attacked, by brushing over the affected parts a mixture of equal parts of fish oil and rosin melted together and applied warm. The operation should be performed as early in the season as possible, or when the insect is first perceived.* In England, many trees have been greatly injured, and some destroyed by it. Although introduced into nurseries in this country, it has hitherto proved of little injury, and if carefully watched probably be kept from spreading.

5. The Canker Worm, where it has appeared, is perhaps the most destructive to apple trees of any insect in America, but it has hitherto been confined in its ravages to certain parts of the country, particularly of New-England. Its habits are thus described by Kenrick:

"The canker worm, after it has finished its work of destruction in spring, descends to the earth, which it enters to the depth of from one to five inches. After the first frosts of October, or from the 15th or 20th, those nearest the surface usually begin to rise, transformed to grubs or millers. They usually rise in the night, and invariably direct their course to the tree, which they ascend, and deposit their eggs on the branches, which are hatched in April or May. They frequently rise during moderate weather in winter, when the ground is not frozen, and in March, and till towards the end of May. When the ground in spring has been bound by a long continuance of frost, and a thaw suddenly takes place they are said sometimes to ascend in incredible numbers."

They destroy all the leaves of the tree and thus eventually cause its death. The only effectual remedy yet devised is to prevent their ascent, which is effected by means of circular lead troughs filled with fish oil, encircling the tree. J. J. T.

---

* If applied early, lime white-wash will destroy it effectually.

GARDEN VEGETABLES.

While the attention of the farmer cannot be too strongly urged to the formation of a good vegetable garden, our object here is not so much to remind him of the garden generally, as of the cultivation of some three or four plants, which are very excellent, but which are frequently missing in the farmer's garden. The first of these is the *Rhubarb*, or pie plant. This no garden should be without, as it is easily cultivated, comes into use when fruits or other vegetables are scarce, and its acid, when cooked, is most grateful and healthy. A few shoots cut from the roots, and planted in rich ground, some four feet apart, will in a short time, furnish stems (the part used,) enough for a family. We had a variety of this plant, the stems of which were enormous, but unless cut early, they become fibrous and coarse, compared with the other or common kind grown by us. To use it, take the stem of the leaf, strip it, cut it in thin slices transversely, and bake it in paste as you would apples. It requires more sugar than the apple, but in flavor is far superior.

Another plant too much neglected is the *Lima Bean.* This bean is rather tender for our climate, and if planted too early, sometimes rots in the ground or is killed by the frost. The ground on which these beans are planted should be made rich and deep, the seeds covered about half an inch deep with fine mold, and the poles should be placed at the time of planting. They should be planted as soon as the ground is warm enough to secure germination, which, with us, is usually the middle or last of May. The vines usually grow until arrested by frost; consequently all the beans will not be matured. The Lima bean is far the best of the beans used as food, and is equally good used green or dry. Those who are fond of *succatash*, or green corn and beans, in the winter, will find this far better than any other for this purpose. They should be picked and dried for winter's use, and when wanted, soaked in soft water over night; then put into the water for boiling, cold, and boiled till tender, with the prepared corn, and a piece of salted pork.

The *Horse Radish* is a plant richly deserving a place in the farmer's garden, though too often, through carelessness, it is allowed, when once introduced, to spread where it is not wanted, and in some instances to become a nuisance. There is no need of this, as the radish is as easily confined to its proper allotment in the garden, as the potato or artichoke. It is propagated by sets or by taking the crown of the plant, with a few inches of the root, and burying it in deep rich soil to the depth of eight or ten inches. If the set is split into two or three parts, retaining a part of the crown on each, the plant may be increased more rapidly. Before planting, the ground should be dug and manured to the depth of 18 inches or two feet. The plants may be set in the spring or fall; but perhaps as good a way as any, is to put out the sets at the time of gathering the roots, and if desirable, in the same place. The leaves make one of the earliest and best of greens, and the roots grated and bottled with good vinegar, make, when used in moderation, one of the healthiest and best of condiments, with either boiled or baked meats.

The *Tomato*, though now much more common than formerly, is still not to be found in many farmer's gardens where it should be certainly, if the mandates of imperious fashion are in any degree to be heeded. The tomato, though found in its greatest perfection in southern latitudes, can, with a little attention, be grown in most of our gardens, and furnish for months a wholesome, and to many a most agreeable article of food. Few like the tomato at first, but the taste soon becomes not only reconciled to it, but is much pleased with it. A rich, stiff loam is the best soil for the tomato. A good way is to sow the seed in a hot bed in April, and transplant when danger from frost is passed. The plants should be four feet apart in rich good ground, and the vines should be supported by a frame work of some kind, or brush, as the fruit will be better than if left on the ground. There are several varieties of the tomato, but the large red for the table or preserving, and the cherry tomato for pickling, are perhaps the best. They are used in various ways; eaten in vinegar as cucumbers, made into soups, into toasts, baked in pie, but perhaps the greatest use is in tomato sauce, which is highly esteemed.

There can be no doubt that our farmers might, at a little expense, greatly enlarge their list of valuable garden esculents; and in so doing materially decrease their annual expenses, while they are at the same time adding to their comforts.

APHIS OF THE CHERRY TREE.

Messrs. Gaylord & Tucker—Huber, in his account of the ants of Switzerland, says there are some species which obtain their principal food from the honey-like substance that is excreted by the aphis—that the ants watch, tend and keep the aphis for its honey, as men do cows for their milk. I have not, by any direct observation of my own, been able to verify this fact in reference to our American ants. Mrs. Darling, on one occasion, had the good fortune, on raising a flat stone in the spring, to see the ants pick up and carry off the aphides which had been housed for the winter in the same habitation. I have no doubt therefore but that our ants are, as Huber expresses it, a "pastoral people," as well as those of Switzerland. It is quite probable that the aphis of the cherry tree in particular is domiciled with the ants in winter, and in the spring, as soon as the leaves are unfolded, is carried by the ants to the trees where it finds pasture for the summer. It rather confirms the supposition, that when the cherry aphis first makes it appearance in spring, it is on leaves very near the ground. I have had occasion to turn this fact to account, in preserving my young cherry trees from this destructive insect. Summer before the last, I had about a thousand young trees, which, before I was well aware of the evil, were covered with the black aphis. All the usual applications recommended in books, were made without much effect. I was forced to give up the trees to the insects. The trees in consequence were very much stunted in their growth, and what was quite as bad, grew crooked and deformed. The last season I determined to commence the destruction of the aphis at its first appearance. As soon as the leaves started in the spring, I examined the trees carefully, especially near the ground, and killed with the finger the few insects that were to be seen. In this way my trees were wholly preserved from injury, and without any other trouble than looking over them, at first every day, afterwards every 2d, then 3d day, and finally once a week.

Peach trees which have been tarred in the spring for protection against the borer or peach worm, are never infested with the aphis—I suppose because the ants cannot carry the aphides up the trees over the tar.

My plum trees were preserved in a different manner. The trees were suffered to stand unattended to, till I supposed the ants had carried up all the aphides which they intended to put in that pasture. I then cut off every leaf where insects were to be found—and no more made their appearance. I took care however to leave untouched the leaves on which were the eggs of the *chrysopa perla*, a green, lace-winged, fetid fly that devours the aphis. These eggs are hung to the underside of a leaf by a small thread about ¼ of an inch long; and should never be disturbed. NOYES DARLING.

CUTTING SCIONS.

This is a good month for cutting scions. They should be kept in a cool, moist place, till the sap runs briskly, when they may be set. If they are to be carried any distance, it is well to dip the cut ends in wax, and pack in moss, dampened a little.

ORCHARDS.

Mr. Harkness, writing on the management of orchards, in the Prairie Farmer, advises to go over the trees in the spring as soon as the leaves begin to start, to clean off the eggs of the caterpillar, and examine the roots to see if the borer has been there. If there are any holes made in the tree by insects, fill them with hard soap. Wash the tree with soft soap, diluted with an equal quantity of water. In a month after, look again for the borer; he can be traced by his "saw-dust;" dig him out. Go through the orchard again in July, and give the wash as above.

GRAFTING GRAPE VINES.

The following is the mode practiced by the late Mr. Herbemont, of South Carolina. "Take away the earth around the vine, to the depth of four or five inches—saw it off about two or three inches below the surface of the ground. Split it with a knife or chisel, and having tapered the lower end of the scion in the shape of a wedge, insert it in the cleft stock, so as to make the bark of both coincide, (which perhaps is not necessary with the vine;) tie it with any kind of string merely to keep the scion in its place, so as to leave only one bud of the graft above the ground, and the other just below the surface, and it is done."

TO KILL THE PEACH TREE BORER.

Mr. Jas. Camack, of Athens, Ga., in a letter published in the Magazine of Horticulture, recommends fish brine, diluted with an equal quantity of water, and a pint to be turned round each tree in the spring or fall. The trees on which he used this liquid were 2½ to 3 inches in diameter. To smaller trees he thinks less brine should be applied.

Domestic Economy.

EXPERIMENTS IN MAKING BUTTER.

The following communication, we think valuable because the experiments which are detailed, seem to have been conducted with the care and judgment necessary to establish a fact. We are not disappointed at the results—former experience having led us to believe that where milk is kept at the right temperature, all the cream will rise, and we can get no more than *all* by the scalding process. Either of our correspondent's plans is far better than letting the milk freeze, which should not be permitted.

Messrs. Editors—In the winter of 1841, we instituted some experiments by scalding the milk with a view of ascertaining a better method of obtaining cream and making butter in cold weather than heretofore adopted. Our experiments then were confined to the milk of one cow; it now embraced the milk of five cows, which probably may account for the difference in the amount of milk taken to produce a pound of butter. It is well known that cow's milk is liable to vary considerably, according to the nature of the food and the state of the weather. The quality of the milk of a cow, can easily be decided by a lactometer, or by setting a portion of it for cream, in a wine-glass, and comparing it with others in the same way, and under the same circumstances; or the milk of a particular animal can be placed by itself for a period of time, and the actual produce determined.

There is a great difference in the quality as well as the quantity of milk given by cows of the same appearance and treated in the same manner. Not unfrequently in the same herd, the product of one cow is worth double that of another. The writer has known one cow whose milk would not produce butter, and strange as it may appear, she raised the fattest calves of any cow in the herd. It is presumed that every person who keeps a cow is desirous of having one of superior quality, but it is more the result of good fortune than prudence if he obtains such an one in the ordinary way.

Our object in the present experiment, was made not only with a view to ascertain the comparative advantage, if any, of heating the milk, but in the time employed in converting the cream into butter; the amount obtained from a given quantity of milk; and the quality of the butter, all managed under circumstances as nearly alike as possible. The difficulty of raising cream and making good butter in cold weather is well known to all who have paid any attention to that branch of the farmer's business.

The results of our experiments in 1841 induced the belief that heated or scalded milk produced the greatest quantity of cream and best quality of butter; but the comparative experiments now made, and the results, confound us. The process of scalding milk is troublesome, and the milk after the cream is removed, is poor and of but little use, except for the pigs. Although we are much disappointed in the result, we take great pleasure in making it known. The object is interesting not only to those who make farming their business, but to every family whose situation and circumstances make the keeping of this valuable animal, the cow, practicable; it is important not only because cows supply the market with milk and butter, but because they contribute so much to substantial domestic comfort and convenience.

Experiments correctly made and fairly tested form the data on which improvement should be founded. Exactness is important to one's character and usefulness. There is a satisfaction too, in knowing what we do. For this reason we were very particular to weigh the milk when taken from the cow and strained into the pans, to note the temperature when setting for cream; to weigh the cream before churning; to note the temperature while churning; the time employed in churning; and the weight of the butter after having been thoroughly worked.

Agriculture must be considered as one of the exact sciences, and we shall never know whether our progress in it is forward or retrograde, until we have done with *guessing*. But, methinks I hear you say, "it is troublesome to be exact." We answer, the trouble is not so great where the habit is once formed; and is very much more than compensated by the satisfaction experienced in doing it.

The result of the experiments are as follows: The night's milk of five cows, commencing on the 5th of Jan. and ending on the 9th, was subjected to the following process. As soon as the milk was drawn from the cows it was strained into tin pans, and weighed, and amounted to $70\frac{1}{4}$ lbs. After standing twelve hours, boiling water was introduced in an under pan, made for the purpose, which is sufficiently deep to hold about the same quantity of water as there was of milk, the top of the under pan fitting closely to the upper part of the other; the under one nearly straight on the sides, the other flaring, by which means sufficient room is left to retain the steam. From the $70\frac{1}{4}$ lbs. milk, after standing in a room, the temperature of which was from 50 to 55, thirty-six hours, $6\frac{1}{2}$ lbs. of cream was taken from it. This cream was churned in a temperature of 60 degs. and produced $3\frac{1}{2}$ lbs. of butter—time of churning 17 minutes.

On the 11th of Jan'y we commenced setting the milk for cream in the usual way, from the same cows in the same room, in a temperature ranging from 48 degs. to 56 degs.; after standing forty-eight hours it was skimmed. It was so managed that the same amount of milk, ($70\frac{1}{4}$ lbs.) was used, which produced 14 lbs. cream, in which unavoidably remained considerable milk. This cream was subjected to the same process and temperature as the former, (60 degs.) and produced the same amount of butter, and occupied 12 minutes in churning.

Now, there may have been some ounces difference in the two parcels, as our steelyards mark nothing less than $\frac{1}{4}$ pounds, but we were particular in noticing the movement of the beam, and did not discover any material difference.

From the above experiments we have arrived at the following conclusions: That when the milk room is cold, say 30 degs. it is most advantageous to scald the milk, but when the temperature does not fall below 48 degs. little or nothing would be gained by adopting it. There is so little difference in the quality of the butter that it would be difficult for the nicest taster to distinguish which was made the one way or the other. The color too, is so similar that it would be supposed both rolls were made from one churning. C. N. Bement.

Three Hills Farm, Jan. 20, 1844.

☞ Mr. John Thompson, of Farmington, Conn., killed a hog in Jan. last, that weighed 750 lbs.

Veterinary Department.

BARREN COWS.

"I have a beautiful Durham Cow, sired by the imported bull Talleyrand, No. 2728 Herd book, vol. 3. She bred one calf, when 3 years old; since that time, now 2 years, she has been regularly in heat, and faithfully attended, yet with no result. She is strongly predisposed to take on flesh, but is now as low as I think prudent or safe. What shall I do with her.. George Hezlep."

Instances like the above, are not uncommon, and frequently occur among our most valuable and high bred animals. Reducing the flesh sometimes removes the difficulty, but not always, and in such cases there seems no alternative but to fatten. Had we a valuable cow from which we were particularly anxious to breed, if other remedies failed we would adopt the one described by Mr. Bonner, on the 23d page of the current vol. of the Cult. which succeeded so well with a sow—partial spaying—and think it probable it might succeed. As it would, if well performed, be attended with little or no danger; and if it did not produce the effect desired, would not injure the animal in the least for feeding, we can see no objection to its trial in such cases.

BLIND TEETH.

We have several communications on the subject of "Blind Teeth," or "Wolf Teeth," in horses, signed as follows: *Edgar, A Daily Laborer; John M. Harland, John M. Johnson, Peter Ellis, Jas. M. Ellis, Peregrinator,* and *Quercus,* (U. C.) With the exception of one or two, they all seem to agree that these teeth are injurious and ought to be taken out. This may be done by placing a piece of iron (or as some say, hard-wood,) against the teeth, and giving it a blow with a mallet or hammer.

Quercus says he does not believe a word in regard to the injury which it is asserted these teeth occasion; says he had a mare which had "wolf teeth," and was told that she would certainly go blind soon; but he kept her many years, and she had good sight till the time of her death. Mr. Peter Ellis says, he "has extracted many of these teeth, but whether it has been attended with any great benefit, is at a loss to determine." He thinks, however, that it is best to take them out. We find there are others who have doubts on the subject, but all agree that it does *no hurt* to take out the "wolf teeth," and it may do some good. These teeth are not confined to horses of one section of the country, for we have accounts of them from Georgia to Canada. Neither are they, as has been suggested, confined to horses which are fed mostly on Indian corn; we hear of them where the horses never ate any corn of any consequence.

Since writing the above, we have received two letters on this subject. One from Mr. Samuel M. Spengler, and one from Mr. U. Skinner, both of Virginia. Mr. S. enclosed one of the teeth referred to. He says they do not always occasion injury to the eyes; the worst effect is produced when they come out close to the other teeth, (that is, the grinders,) and the farther they are from them the less the injury.

MURRAIN.

John Grant, in a communication to the Mark-Lane Express, gives the following as "an almost infallible" cure for Murrain, if applied on the first appearance of the disease:

Sal prunelle,	2 oz.
Stiptic powder,	2 "
Balsam Copavia,	2 "
Nitre,	1 "
Glauber Salts,	4 "

Dissolve the whole in half a gallon of table beer, with half a pound of soft sugar added, and give as a drench; the good effects of which may be visible in twenty-four hours—after which, let the sick cattle be put in a field where there is plenty of water, as a desire to drink is one of the first symptoms of convalescence.

Look well to your bees during this month.

ISABELLA GRAPE VINES,

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over ten years has conferred on the vineyards at Croton Point, are now offered to the public. Those who may purchase, will receive such instructions as will enable them to cultivate the grape with entire success, (provided their locality is not too far north.) All communications, post paid, addressed to R. T. UNDERHILL, M. D., 400 Broadway, N. Y., will receive attention. He feels quite confident that he has so far ameliorated the character and habits of the grape vines in his vineyards and nurseries, by improved cultivation, pruning, &c. that they will generally ripen well and produce good fruit, when planted in most of the northern, all the western, middle and southern states.

New-York, Feb. 1844. 1t

AMERICAN FARMER'S ENCYCLOPEDIA AND DICTIONARY OF RURAL AFFAIRS,

WITH 17 beautifully executed plates of Cattle, Agricultural Implements, Destructive Insects, &c., complete in 1 volume, 1150 pages, price $4, bound—embracing all the recent discoveries in Agricultural Chemistry, adapted to the comprehension of unscientific readers, by Cuthbert W. Johnson; enlarged, improved and adapted to the United States, by Governeur Emerson, assisted by numerous scientific gentlemen.

An excellent manual of agriculture—and we venture to say that there is not a farmer in the United States that cannot derive many useful hints and much valuable information from this Encyclopedia—Albany Cultivator.

No farmer or planter who desires to be master of the science of his profession, should be without this work.—American Farmer.

Its merits are far greater than we had before imagined, and we are fully convinced that such an amount of valuable knowledge for farmers can be found in no work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession should consent to be without it. As a book of reference, it is invaluable—we would not be without it for four times its cost.—New Genesee Farmer.

Should be in the library of every farmer.—American Agriculturist.

We heartily recommend it to our readers, and wish every farmer in North Carolina would take it and study it carefully. Raleigh Star.

A real treasure of practical information wherein the experience of all ages and countries is carefully posted up to the present day, and admirably arranged for convenient reference. —Dr. Darlington.

For the farmer who can have but few books, we know of no one relating to his profession so valuable.—Prairie Farmer.

fe 2t CAREY & HART.

POUDRETTE—A NEW ARTICLE.

IMPROVEMENTS of such a nature have been made in the manufacture of POUDRETTE, by the *Lodi Manufacturing Company*, near the City of New-York, as to warrant the opinion that it is the *cheapest and best Manure* now known and in use. By experiments which have been made, it has been proved that its *fructifying powers have been greatly increased, its operation upon vegetable matter quickened.* It will obviate the effects of *severe drought*, and will retain its fertilizing qualities much longer than any Poudrette heretofore made. It will ripen Corn in 66 days fit for use. The price will be reduced the following season as follows: At the Factory it will be sold in bulk at the rate of 25 cents per bushel. It will be delivered at any wharf or place in the City of New-York, *free of cartage and other expense*, at the rate of $2 for one barrel, which contains 4 bushels; $3,50 for 2 barrels; $5 for 3 barrels, and $10,50 for 7 barrels, and at the rate of $1,50 per barrel for any greater quantity. Persons wishing the article will please give notice in due season, as the orders will be fulfilled in the order of time received. The Company was incorporated in February, 1840, for 30 years by the Legislature of New-Jersey. No liability to stockholders beyond their subecription of $100 per share. A *few shares* of what is called the "*Reserved Stock*," remain to be be subscribed for, which the Company guarantee shall pay a dividend of 50 bushels of Poudrette a year on each share. as authorized by the Charter. A pamphlet containing instructions for its use, and all other necessary information, is in preparation, and will be sent *gratis*, to any person applying for it, post-paid. Agents have been or will be appointed in most of the important places in the Northern and Eastern States, to whom persons may give orders. Where there is no agent, please direct to "*The President of the Lodi Manufacturing Company*, No. 43 Liberty-street, New-York," and it shall receive immediate attention. Please refer to the Letter of Mr. Kentish, in the March number of the CULTIVATOR.

New-York, Feb. 15, 1844.

PRIZE BULLS AND CALVES.

THE subscriber offers for sale two full blood Devon Bulls, which obtained the First Prizes offered for Devon Bulls, at the Baltimore County Agricultural Fair, held on the 19th and 20th October last, viz: Richard, 2 years old last spring, at $50; Marmion, one year old last June, at $50. Also: 3 full blood Devon Calves, got by the celebrated bull, Waverly. They are large and perfectly formed, and are 6, 8, and 10 months old at this time. Price—$40 each. They are of a suitable age for shipping to the South. Address

JOHN P. E. STANLEY,
50 S. Calvert, Corner of Lombard st.

Baltimore, Md. Feb. 1, 1844—2t.

FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at his long established Seed Store, a supply of the best quality and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, *Red Top*, or *Herd's Grass*, *Orchard Grass*.
Lucerne, or *French Clover*, *White Clover*,
Trefoil, *Kentucky Blue Grass*, &c. &c.

Also, the different varieties of Wheat, as White Flint, Red Chaff, Mediterranean, and English—for sale in lots to suit purchasers at moderate prices, by ISRAEL RUSSELL,

Feb. 1, 1844.—mar. oct. 26 Front-street, New-York.

ROB'T SINCLAIR, Jr. & CO.

MANUFACTURERS AND SEEDSMEN, BALTIMORE—Offer for sale:

Corn Mills and Shellers,
Corn and Cob Crushers,
Straw and Fodder Cutters,
Fanning Mills,
Vegetable Cutters,
Fruit and Ornamental Trees and Plants,
25 sorts Plows, including the famous Dolphin Self-Sharpening and Subsoil,
Agricultural and Garden Tools and Seeds, a large and general assortment.

☞ See Priced Catalogue, to be had gratis of

Feb. 14, 1844.—1t R. S. Jr. & Co.

CAMBRIDGE NURSERIES,

CAMBRIDGE, MASS., TWO MILES FROM BOSTON.

HOVEY & CO, Proprietors of these extensive Nursuries, would respectfully inform their friends and the public generally, that they have now ready for sale, an unrivalled collection of

Fruit and Ornamental Trees,
Evergreen and Flowering Shrubs,
Grape Vines, Raspberries, &c.
An extensive collection of hardy and tender Roses,
Green-house and hardy Herbaceous Plants,
Dahlias and Bulbous Roots,
Hawthorn and Buckthorn, for Hedges,
Apple, Pear, Plum, Cherry, and other Stocks.

This collection of fruit trees embraces all the best kinds; selections of which were made from the best nursuries in England and France, and scions procured from the well known Pomologist, the late R. Manning, of Salem.

The selection of Chinese, Tea, Noisette and Bourbon Roses, includes upwards of 200 varieties, many of them the rarest and choicest to be procured in England. The collection of Dahlias is most extensive, and comprises all the fine varieties in cultivation.

☞ All orders to be accompanied with cash or a draft. Catalogues of fruit trees, roses, Dahlias, vegetable and flower seeds, issued separately, and furnished to all *post-paid* applicants. Trees, plants, seeds, &c. packed so as to be safely transported to any part of the Union.

Address, HOVEY & Co., Seedsmen and Nurserymen,
7, Merchant's Row, Boston, Mass.

BAILEY & RICH'S SMUT MACHINE.

MANUFACTURED and for sale by J. T. E. & C. RICH, Shoreham, Vt. Patented in 1841, much improved in 1843.

These Machines are made wholly of iron and steel, very compact, efficient, simple in construction, and durable. They are so made, that a strong current of air is forced into the centre of the machine, and passing out sideways through cracks in the inner and outer cylinders, expels the dust as fast as created, and prevents it from mingling again with the grain, as it does in other mills, so as to often blacken the kernels.

They will clean from 15 to 25 bushels per hour. Warranted to suit upon 3 months trial.

Shoreham, Feb. 16, 1844.—2t

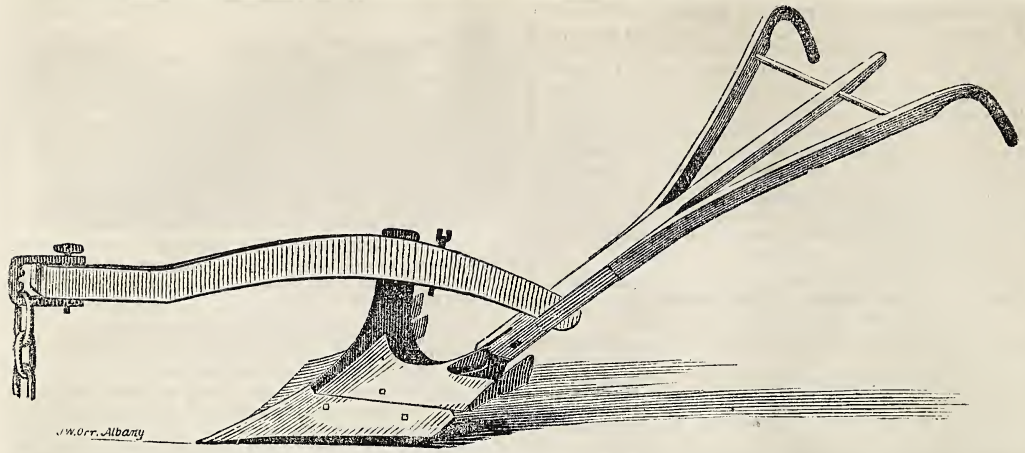
TO FARMERS.

THE subscribers are now engaged in the manufacture of R. McMillen's Patent Cast Iron Plow. This is a new article for this section of country. It has been tested, and works to the entire satisfaction of those who have used it. We invite farmers and others who wish to purchase plows, to call and examine for themselves, as we believe they cannot fail to be suited, and at prices that will correspond with the times.

They are made of the best cold blast iron—are ground, painted—of two sizes, one weighing 80 lbs., the other 100 lbs.

For sale at their store in Troy, at the Rail-road bridge, also at WM. THORBURN'S Agricultural Ware-house, No. 38 Broadway, Albany. ANTHONY & MORRISON.

Troy, Feb 14, 1844.—1t*



CONTENTS OF THIS NUMBER.

Animal Physiology, 94.
Ag. Societies—State, 74—Rensselaer, 76—Trumbull Co. 84—Vermont, 96
Ag. School and Patent Farm, 76, 87, 94.
Ag. College in Tennessee, 74.
Butter making, experiments in, 101.
Cattle—Mr Mason's cow, 74—Prize Animals at Smithfield, 88—On rearing Calves, 96—Mr. Schenck's Cow, cause of her rich milk, 97—Barren cows, remedy for, and cure for Murrain, 102.
Cement Pipes for conducting water, 77.
Corrections, 82, 87.
Cold Weather, 86.
Clover Hay, effect of on animals, 87.
Clover Seed, per acre, 91.
Death of Van Mons and J. C. Loudon, 86.
Food of different Nations, 76.
Fruit Trees—Mr. Pell's orchard 82—Culture of the Apple, 99—Aphis on the Cherry Tree, Cutting Scions, to destroy Caterpillars on, the Peach Tree Borer, and Grafting Grape Vines, 101.
Garden Vegetables, 100.
Hay, proper time for cutting and method of curing, 97.
Horses—Blind teeth in, 102.
Indian Corn—Culture of, 79. 80.
Johnston's Lectures, notice of 93.
Lands, improvement of, 87.
Lucerne, culture of, 86.
Lime as a destroyer of Sorrel, 90.
Letter from Solon Robinson, 92
Medals—Letter from F. Rotch on, 85.
Monthly Notices, 73.
Manures—Charcoal, 74—To make Composts, 87—Poudrette, 96.
Mississippi, her Agriculture, &c , 83. 84.
Northampton Ag. Club, 82.
National Fair at Washington, 96.
Plows—Burrell's Shell Wheel, 81—McMillan's cast iron, 89.
Philosophy of Wool, No. 2., 95.
Premium Crops, 94.
Potatoes—Culture of, 98.
Sheep—Merino, 74—Mr. Bingham's Paular Merinoes, 75—Rearing Lambs for the butcher, 75—Leicesters, South-Downs and Chevoit, 85.
Swine—Large, 75, 101.
Spring work, 81.
Subsoil plowing, 85
Speculative Hobbies, 95.
Seeding grass lands, 97.
Threshing Machines, 75.
Tobacco, culture of, 89.
Virginia farming, 78.
Vegetable Cutter, 82.
Wheat—Harrowing in Spring, 74—Great yield of Spring, 74 Black Sea Spring, 75.
Weights and Measures of England, 85.

ILLUSTRATIONS.

Burrall's Plow, - - - - 81
Vegetable Cutter, - - - - 82
Prize Cattle, - - - - - 88
McMillan's Plow, - - - 89

☞ ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion.

NEW-YORK STATE AGRICULTURAL SOCIETY.

State Agricultural Hall, (old State House,)
Albany, Feb. 17, 844

The State Agricultural Society now occupy the Hall in the Old State House contemplated by the concurrent resolution of the last Legislature. The Hall is the easterly one on the first story (that formerly occupied by the Comptroller)—the remainder of the edifice being occupied, as this room is yet partially occupied, by the State Geological collection.

Officers and members of County Societies, and friends of Agriculture from other States, as well as this, are invited to visit the Hall when passing through Albany: And Agricultural Committees of the Senate and Assembly, as well as the Committees of the Society itself, will find the Hall ready for their reception at their evening meetings.

The returns which County Societies are required by law to make to the State Society, and other communications touching the farming operations in the several counties, may be left at the Hall in charge of the Recording Secretary:

And all Premiums awarded by the Society, or any other claims upon it, will be paid on presentation there to the Treasurer, Thomas Hillhouse.

By order of the Executive Committee,
JOHN P. BEEKMAN, Pres't.
Henry O'Reilly, Rec. Secretary.

LANGDON'S CULTIVATOR.

THE HORSE HOE OR CULTIVATOR PLOW, is an implement constructed and patented in 1842, by Barnabus Langdon of Troy, an old and experienced mechanic. After much labor and practical experiment had been bestowed upon it, it was exhibited for the first time at the State Fair held at Albany, and also at the Rensselaer Co. Fair, of that year, and received a premium at both.

There has been a large number made and sold the past season, and they have been thoroughly tested in various ways by some of the best and most experienced agriculturists in this and the adjoining counties, and in the vicinity of New-York, and all testify to their utility and usefulness, and to their superiority over any implement of the kind in general use. They not only do the work more effectually, but in much less time, and at one half the expense of any other Cultivator now in use, which are three important items, in these times of general low prices for agricultural productions. This Cultivator was exhibited at the last Fair of the American Institute, and received a premium. Much attention was bestowed upon it by Southern planters, and a number of them were sold by Mr. Langdon to go South, for working in corn, cotton, and tobacco. The Cultivator Plow is an implement made for weeding and loosening the soil between the hills o- corn, potatoes, peas, beans and all root crops.

When weeding, half hilling, or splitting down corn hills, the weed cutters are always to be used, as represented in figure No. 1.* This operation cuts up the weeds, loosens and pulverises the soil completely up to the hill, and by cross plowing there will be little left for the hand hoe to do.

When the crop requires more earthing or hilling than the weed cutters can do, they are to be taken off, and the mould boards are to be put on, as represented in figure No. 2.*

Both occupy the same position on the plow, and both are secured to the standard by one bolt. The mould boards throw a beautiful furrow each way, thus doing the work in one half the time of an ordinary corn plow.

For digging potatoes, or root crops, this implement is unrivalled. When used for that purpose, the weed cutters should be on, and the plow should then be drawn by a double team; direct the plow under the middle of the hill, just deep enough to raise the crop to the surface, which it will do in a most expeditious and workmanlike manner. These Cultivators are made of the best materials, fitted up in the best manner, with share, weed cutters, and mould boards ground bright, ready for immediate use. The price of the implement is $8 at retail, and a fair discount made to dealers in agricultural implements. Orders addressed to Barnabas Langdon, or Mowry & Vail, 127 River st. Troy, (his authorized agents), will receive immediate despatch. They are also for sale by Ruggles, Nourse & Mason, Boston; John Mayher & Co. New-York; Pruyn, Wilson & Vosburgh, Albany; J N. Woolley, Poughkeepsie; and E. Gifford, Hudson.

The testimony of C. N. Bement, Esq:—

Among the new implements exhibited at the State Fair last fall, none seemed to attract the attention more, or appeared to meet the views of the multitude better, than the Horse Hoe or Cultivator Plow exhibited by Mr. Barnabus Langdon of Troy.

It affords me great pleasure to have it in my power to speak of the merits of this implement from experience, having used one the past season in my corn. My corn ground was laid off in squares, planted in the corners, leaving the hills three feet apart, which enabled me to run the Horse Hoe both ways. The edges of the share being sharp, cut up the weeds, which, with the soil, passes over the cutters, and leaves the soil very light and loose.

The breadth of the share is sufficient for rows of three feet wide, as it loosens and breaks up the soil beyond the reach of the share and after passing through the crop both ways, there is little left for the hand hoe to do.

It is a very efficient implement, and I have the testimony of a number of farmers and gardeners who have used it, who all speak in the highest terms of it. I did not try it for digging potatoes as my crop was on a side hill; but those who did try it, say it exceeds any thing of the kind which has been introduced for that purpose. Three Hills Farm, Albany, January, 1843.

MOWRY & VAIL, Agents,
Feb. 1, 1844. 127 River-street, Troy, N. Y.

---

* These figures are necessarily omitted, owing to the room they would occupy.

THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

VOL. I. ALBANY, APRIL, 1844. No. 4.

THE CULTIVATOR
Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

WILLIS GAYLORD AND LUTHER TUCKER, EDITORS.

ONE DOLLAR A YEAR.

SEVEN copies for $5,00—FIFTEEN copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "THE CULTIVATOR," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE FARMER'S MUSEUM,

(*Each no. containing* 16 *pages*,)

Is made up of selections from this paper, and published monthly at 50 cents a year—Fourteen copies for $5,00—Thirty copies for $10.

CONTENTS OF THIS NUMBER.

Agricultural meeting, 114.
Apples—Mr. Pell's Orchard, 107—Transplanting, pruning, grafting, &c. 130—change of varieties and profits, 132.
Blind Teeth in Man, 107.
Buildings—Design for farm house, 120—for barn and out-buildings, 121.
Cattle—Fat, 106, 107, 109—Remarkable Heifer, 107—Selection of, 106—Treatment of Calves, Securing Bulls, Diseased Animals, Milch Cows, Soiling and Fattening, 108—Scours in Calves and to remove Warts on Teats of Cows, 134.
Common Schools—Improvement of, 107—Col. Randall's Report on, 116.
Clover Hulling Machines, 107.
Cotton—Suggestions to Planters, 124—Culture of, 128.
Cherries, culture of, 130.
Cheese making, and Self-Acting Cheese Press, 133—Cream Cheese, 134.
Death of H. D. Grove, 118.
Experiments recommended, 106, 116.
Florida, Season in, 107.
Fences, how to make, 113.
Grape, Culture of, 132.
Hay—Large Crop, 107—best Meth- of Curing, 122
Horse—The Morgan, 108—Points of, 113—For the Road, 122—Blind Teeth in, 134.
Information wanted, 118.
Indian Corn—Soaking Seed, 106, 107—Large Crops of, 114, 115—State Premium on, 116- Machine for Cutting Stalks, 107.
Legislative Report by Dr. Lee, 110.
Louisiana State Fair, 121.
Monthly Notices, 5.
Manures—Salt, Gypsum, Ashes and Lime, 109—Horn shavings, bristles, &c. 114—Compost, Marl, 119.
Mince Pies, how to make, 134.
Notices of Books, Papers, &c. 117.
Ornamental Grounds, plan of, 121.
Okra Soup, to make, 134.
Plow, Sinclair & Co.'s Self-Sharpening, 112.
Potatoes, to raise early, 131.
Rotation of crops, 107.
Reaping Machines, 107.
Road Working, 129.
Sheep—Importation of Merinoes, &c., 106, 126—Fat, 109—Information about Sheep and Wool, 112—In Vermont, 113—Philosophy of Wool, 128.
Swine—Remarkable Pig, 107.
Silk Business, Progress of, 134.
Turkies, Management of, 123.
Western Lands, Fertility of, 115.
Wheat, Spring, Culture of, 118.
Willow—Culture of, 125.

ILLUSTRATIONS.

Self-Sharpening Plow, - - 112
Fences, - - - - - - - - - 113
Designs for Farm House, - 120
Barn and Out Buildings, - 121
Ornamental Grounds, - - - 121
Illustrations of Pruning, - - 130
Self-Acting Cheese Press, - 133

☞ ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion

THE CULTIVATOR.

MONTHLY NOTICES.

COMMUNICATIONS have been received since our last, from Wm. Fuller, W. R. Gilkey, Long Island, A. L. Fish, Prudence Reynolds, Jonathan, L. A. Morrell, Wm. Jarvis, S. Weller, A Subscriber, Arabella Sheldrick, H. P. & G. Allen, John Johnston, D. S. Curtis, H. Meigs, L. D. Gregory, S. W. Jewett, G. Butler, M., G. L. Beckwith, P. H. P., A Wool Grower, C. H. Hall, A. L. Kennedy, G. F. Baltzell, S. Wagner, Frock and Trowsers, J. W. Salter, L. Peterson, A. R. D., R. L. Pell, C. H. Tomlinson, James Wiley, R. M., James Camak, A Subscriber, J. J. T., S. N. Haines.

We are under obligations to P. L. SIMMONDS, Esq., London, for copies of the first and second numbers of his "*Colonial Magazine*;" also for Richardson's "Geology for Beginners," and several pamphlets.

To some unknown friend, for the Transactions of the Westboro (Mass.) Ag. Society for 1843, embracing the Address of the Rev. Mr. Kittridge, Reports of Committees, &c.

To H. L. ELLSWORTH, Esq. Commissioner Patent Office, Washington, for a number of parcels of seeds, among which are the Multicole Rye from France—five varieties of Wheat—three of Indian Corn—three of Melons—two of Peas—one of Beets—two of Cabbages, Calcutta Flax, Egyptian Corn, &c.

To E. P. LANGDON, Esq. for the Annual Report of the Trustees and Visitors of the Common Schools of Cincinnati. The Common Schools of the Queen city, are models worthy of imitation.

SEABROOK'S MEMOIR ON THE ORIGIN, CULTIVATION, AND USES OF COTTON.—This is a pamphlet of 62 pages, by W. B. Seabrook, Esq. President of the State Agricultural Society of South Carolina. From the little attention we have been able to give, we should think this a valuable memoir. Our thanks are due to the author for a copy.

We have received an excellent article on "Wool and Sheep Husbandry, by a member of the New-Castle Co. (Del.) Practical Farmer's Club," from which we should be pleased to give such extracts as the state of our columns will admit, in some future number.

Col. NEISWANGER, of St. Clairsville, Ohio, will accept our thanks for a copy of Dr. RICHARDSON'S Address, delivered before the Agricultural Societies of Brooke and Ohio counties, Virginia.

HON. JAMES BATES, of Norridgewock, will please accept our thanks for a copy of his address delivered before the Somerset (Me.) Agricultural Society. It is a *real* good practical address, and did space permit, we should like to give some extracts from it in the Cultivator.

STATE FAIR FOR 1845.—The New Genesee Farmer, in announcing that the next Fair of the State Ag. Society was to be held at Poughkeepsie, stated that the arrangement, as it was informed, was made "with the understanding that it is to be at Buffalo the year following." To several inquiries as to the correctness of this statement, we answer that nothing was said at the annual meeting in relation to the place of holding the Fair for 1845, nor did we hear of any discussion or any " under standing" on the subject, among the officers or members of the Society.

State Fair at Poughkeepsie.—Great preparations are making in Dutchess and the river counties for this Fair, which it is thought will far exceed any previous one of the Society. A meeting was recently held at Poughkeepsie on the subject, at which the right spirit was manifested, and a committee of fifteen appointed to co-operate with the officers of the State Society, in making the necessary arrangements, raising funds, &c.

Varieties of Wheat.—We would call attention to some samples of wheat at the Agricultural Society's room, (old State Hall,) from Gen. Harmon, of Wheatland, Monroe co., N. Y. The samples embrace twelve or fourteen varieties, which Gen. H. has tested on his own farm. His opinion of their relative value, may be seen by an article from him on the cultivation of wheat, which will appear in the third volume of the Transactions of the N. Y. State Ag. Society, which is now in the course of publication.

S. M.—The 4th part of Johnston's Lectures, has not, we believe, been published.

Bermuda Grass.—Will our friend Mr. Affleck, have the goodness to answer the following inquiries. Would either Bermuda or Musqueto grass suit the climate of Albany? Where could the seed of either of these grasses be had, and at what prices?

Pigeon Weed.—Mr. J. Johnston, says he is much troubled with this weed, or *red root*, as sometimes called, and requests information as to the best mode of extirpating it. Who can tell the best way to do it?

Wire Worm.—"A Subscriber" at Norwich, Mass., inquires for a remedy against the ravages of the *wire worm*. We do not know that any specific has been discovered; their mode of attack is such that it is difficult effectually to guard against them. They destroy the germ of seed grain, and sometimes much injure potatoes by working into them. Soaking grain in a solution of copperas, before sowing or planting, is the best preventive that has yet been used; but it is doubtful whether this is in all cases sufficient.

Transferring Bees.—The Boston Cultivator wishes to learn the mode of transferring bees, which is referred to by Mr. J. Wells, of Ulster, N. Y., in his communication published in the Cultivator, vol. 10, page 178. Mr. W. calls it "Kelsey's mode." He will oblige us by sending a description of it.

Fat Cattle.—Three oxen raised by Jeremiah Brown, Ridgeway, Orleans co. N. Y., one of which took the first premium of the New-York State Ag. Soc. at Rochester, last fall, were lately sold in Boston market. Their dressed weight was 1,950 lbs., 2,500 lbs., 2,630 lbs. A roasting piece of one of them was sent to this city as a sample, and was admitted to exceed any thing of the kind before seen.

Selection of Stock.—"Jo Sykes," a correspondent of the N. Y. Commercial Advertiser, says that while on a visit to Mr. Webster's farm at Marshfield, in Dec. last, Mr. W. made the following remarks: "In the selection of stock, farmers in this country should regard their own climate and their own circumstances, and note wherein they differ from those of the farmers in England. Here we raise oxen for work as well as beef; but there they seldom raise cattle for working."

Soaking corn in muriate of ammonia.—Dr. Samuel Webber gives an account in the N. E. Farmer, of several experiments which he made last season with muriate of ammonia. He dissolved a small piece of the common sal ammoniac of the druggists, estimated at 4 or 5 grains, in about half a coffee-cup of water, and threw into the solution a handful of corn, which, after having remained 4 to 5 hours, was planted. He planted this soaked corn in hills, side by side with that which was not soaked. He made four different experiments, which are reported in considerable detail. In all cases, the soaked seed produced considerably the best yield—generally at least one-third more. The land was light and dry, and for several of the experiments, he purposely took the poorer spots. The corn suffered with drouth; but in all cases, that from the soaked seed manifested a decided superiority; so much indeed, that it was noticed by strangers, who knew of no difference in the seed.

Merino Sheep.—We would invite particular attention to the very interesting letter in this paper, from the Hon. Wm. Jarvis of Vermont, giving a history of the introduction of the Merino into this country, and a description of the several varieties. Of the large number brought into the country in 1809, 10 and 11, it is doubtful whether a single flock, save that of Mr. Jarvis. has been preserved pure to the present time. In a tour through Vermont the last season, we saw many superior flocks of Merinoes, and in every instance we found their superiority was derived from bucks either obtained or descended from Mr. Jarvis' flock. We believe also that it will be found that the sheep so frequently alluded to in the Cultivator, as Paulars, derive their excellence from the same source. It will be seen from Mr. J.'s statement, that in the year 1816 or 1817, he permitted his five varieties of Merinoes to run together, and consequently that he has bred no pure Paulars for the last 25 years. If, as we suppose, the flocks of Messrs. Jewett, Avery, Bingham and others, owe their excellence to bucks obtained from Mr. Jarvis, within the last 20 years, there would seem to be a manifest impropriety in denominating them pure Paulars, however superior they may be, as they must have originated in a mixture of different varieties of Merinoes. It is possible however, that there may have been other importations of Paulars than those alluded to by Mr. Jarvis; and if so, we shall be glad to learn the facts in the case. There was, we believe, an importation of Merinoes into Massachusetts, not alluded to by Mr. Jarvis, made by Mr. Seth Adams, now a resident of Zanesville, Ohio; and as it is desirable that the history of their introduction should be as perfect as possible, we shall take measures to procure from Mr. A. an account of his importation.

Note.—In publishing Mr. Jarvis' letter, we omitted the paragraph alluding to the "Albany Agricultural paper," inasmuch as he had informed us that he had ascertained that the article was not from the Cultivator. Since the pages containing it were stereotyped, we have received a letter from Mr. Jarvis, in which he informs us that he has ascertained that the article alluded to was from the American Agriculturist, and originally appeared in the number of that paper for Sept. last.

Burying Corn to avoid frost.—Mr. S. Ellis states in the Massachusetts Plowman, an experiment made in 1842, of protecting corn from frost by covering it up with dirt. Being convinced from the state of the air, that there would be frost, he went into the field with his hands and covered about an acre, by hauling dirt on to it with hoes. As the next day was cold, he did not uncover the corn till the second day. On removing the dirt, the corn was found much crippled down, and looked, he says, "as if it had lain in bed with its clothes on for two nights;" but straightened up in the course of the day, and made as good a crop as he ever raised. The rest of the field was all killed.

The Plymouth Co. (Mass.) Agricultural Society offers premiums for the best conducted experiments on different subjects. For instance, such as will determine the relative value of the various substances used as manure—as lime, salt, &c. Particular directions are given, which the claimant for a premium must strictly observe. For the experiment with salt, it is directed to take one-fourth part of an acre of dry land. Prepare two compost heaps —an equal quantity of manure in each—in one heap mix one bushel of salt, and in the other, the same kind of manure and no salt. Put one heap on one-half the lot, the other heap on the other half. Plant one-half of *each part* to corn, the other half of each part to potatoes. The next year sow grain and grass seed, and on the part on which salt was used the year before, sow half a bushel of salt, and sow the same quantity of salt the *third* year in the spring. Keep the crops separate, and weigh and keep an exact account of the product of each part.

Now something of this kind is what we want to see adopted by the New-York State Ag. Society, and we verily believe that a given sum thus expended, would effect more good than ten times the expense in any other way.

CONDENSED CORRESPONDENCE.

Rotation of Crops.—Mr. Benj. H. Hart of Dutchess county, informs us that he practices the following course with success: first year, corn and roots—the second, oats with clover seed, and to remain two years in clover; the first crop cut for hay, the second, the seed stripped off, leaving the grass to be partly eaten off by wethers, which are procured in October, fattened on clover hay and turneps, and sent to market by the first of March, leaving a moderate stock on hand through the summer.

Remarkable Heifer.—Mr. W. R. Gilkey, of Windsor, Vt., has sent us a statement of the quantity of butter made from a young cow of his. She produced her second calf May 6th, 1843—being three years old on the 4th of March previous. As Mr. G. had but one cow, his family were supplied with milk from this one—they using one and a half quarts per day. On the 26th of May, he churned the cream from eight days milk, which produced *twelve pounds* and *eleven ounces* of butter. The heifer was fed during this time with nothing but grass. She is one-fourth Durham blood, her other blood unknown.

Large crop of Hay.—Mr. M. Y. Tilden, of New Lebanon, N. Y., writes us that he cut the past year, from 132 acres, 285 tons of well cured hay. Mr. T. says, "our sheep ranges being all on the mountain, we are compelled to bring them home early in the fall to pasture on the meadows, and the same cause operates in the spring; so that our mowing grounds are fed both spring and fall." He states that not more than ten acres of the land where the hay grew, was manured at all, excepting from the sheep as they grazed over it. This statement furnishes a fine comment on the notion that has worked into the heads of some men, that "*sheep poison meadow grounds.*"

A Curiosity.—A correspondent at Philadelphia, says: "Among the agricultural curiosities about here, an ox has just passed my house, which is eleven feet long from the shoulder to the tail, and over eighteen hands high! He is of the droop-horn breed from Kentucky, but has for several years been fed at the farm of Isaac W. Roberts, near this city." The ox is probably of the variety of long-horns, known in Kentucky as the Patton breed. They sometimes grow to an immense size.

Machine for cutting corn-stalks.—We have received from Mr. A. L. Fish, of Cedarville, N. Y., a description and drawing of a machine for cutting cornstalks. We have no doubt the machine is a useful one, but our engagements prohibit an insertion of the drawing in the Cultivator at present. He states that the whole cost of the machine would not be more than two or three dollars. The cutting part is a knife, which he says may be made of an old scythe, fastened to a wheel, which is kept in motion by the foot, in the same manner as turning lathes are sometimes worked.

Remarkable Pig.—Mr. G. B. Green, of Windsor, Vt., killed a pig Jan. 1, 1844, nine months and one week old, that weighed *three hundred and sixty pounds*. Blood, one-quarter Berkshire, three-quarters Grass breed. This pig had been fed on slops and rye meal, till during the last three months—then with Indian meal and two tea cups full of molasses per day. From experiments, Mr. Green believes that a gallon of molasses, given in due proportions with other food, will put on more beef or pork, than two bushels of corn.

Common Schools.—Mr. Geo. L. Beckwith, of West Henrietta, Monroe co., N. Y., informs us that much good has been done in his neighborhood, by weekly meetings, which have been called in the several school districts, at which lectures on various subjects, have been delivered by school teachers and others. The practice is a good one, and might be advantageously adopted by others. Mr. B. also asks—"Why cannot a part of that rich store of minerals which the State has at so much expense collected, be distributed to the different counties, if they will provide a suitable place for them?"

Blind Teeth in Man.—Mr. J. M. Johnson of Missouri, writing to us on the subject of blind teeth in horses, relates the following case of similar teeth having made their appearance in a human subject. Mr. J. says, "last winter I had a young man at work for me, whose eyes became weak; so much so, that during cold weather he was sometimes nearly blind. Not suspecting the cause, I used various remedies without success, until it occurred to me that it might be blind teeth. Upon examination, it was found that one had protruded about a fourth of an inch nearly in the roof of the mouth, and another scarcely developed through the skin. They were easily extracted, and the eyes soon became perfectly well."

Clover Hulling Machines.—Mr. Benj. H. Hart informs us that he has two kinds of clover hulling machines. One is on the plan of Mr. L'Hommedieu, described in a former number of the Cultivator, the other is merely a concave and cylinder attached to a one-horse power. Both perform well. The former can be made by any mechanic, and the latter can be had of A. Wheeler & Brothers, Chatham 4 Corners, Columbia co., N. Y. Price, $20. The Messrs. W. have also for sale, threshing and other machines, made in the most approved manner.

Soaking Seed Corn.—A correspondent who signs himself K., of Queens County, N. Y., writes us that seed corn is sometimes injured by being soaked too much. He soaked some corn about 36 hours in a solution of saltpetre, and then gave it a coating of tar; the consequence was, that only one or two grains sprouted in a hill, where five were planted. He supposes the corn had too much swelled before the tar was applied. This may have been the case, but we have known the germ *killed* by remaining too long in the saltpetre. If the sprout protrudes while the grain remains in the solution, it is very likely to be injured, especially if the liquid be strong. Solutions of potash, lime, &c., will operate in the same way.

Mr. Pell's Orchard.—Mr. Meigs, Secretary of the N. Y. Farmes's Club, makes the following corrections of the report of his remarks on this subject, a brief abstract of which was given in our Feb. number, p. 46. Instead of "20,000 apple trees in full bearing," it should have been "in bearing, being 18 years old." "Mr. Pell's trees are planted 19, 20 and 25 feet apart—19 feet apart would allow 121 trees per acre. The object in thus planting, was to obtain fruit 10 or 12 years after they came into bearing—as fruit from young trees is usually found to be of superior quality. When they interfere with each other, the centre tree will be cut out, and they will then be 38, 40 and 50 feet apart." Instead of reading "that he employed a man to graft 10,000 apple trees," &c., it should have been "400 apple trees, being 18 years old, in which trees 10,000 grafts were set, and that not more than 10 per cent failed."

Reaping Machines.—Mr. Obed Hussey of Baltimore, requests us to publish a correspondence between him and Hon. Wm. H. Roane, relative to the comparative merits of Mr. Hussey's and Mr. McCormick's reaping machines. The great press of contributions from our correspondents utterly prevents complying at present, with the request. We will state however, that Mr. Roane had been one of a committee to report on a trial made by the two machines mentioned, and that the committeee delared in favor of McCormick's machine; but that at a more thorough trial afterwards made on Mr. Roane's farm, Mr. R. changed his opinion, and ordered one of Mr. Hussey's machines.

The Weather in Florida.—A letter from G. F Baltzell, Esq. of Apalachicola, (lat. 29 deg. 51m., long. 85 deg. 06m.,) informs us that the peach was in bloom there, Feb. 20—the Native Plum, Feb. 17—the Yellow Jessamine of the forest, about the 10th Feb.—the Quince, Feb. 22. Ther. Fah. March 3, 72 deg.; March 4, 65 deg.

Indian Corn.—We have read the letter of our friend J. L. Foreman of N. C., with much pleasure. In an article on the culture of Indian Corn, in our last number, p. 79, he will find a detail of the method pursued by several persons who have raised over 100 bushels per acre. It should be remembered, however, that to raise such crops of corn, favorable seasons are as necessary as proper culture. The inquiries about cattle, shall be answered by letter.

TALK ABOUT FARMING.

It is well known that the Massachusetts Legislature is a numerous body of some 400 individuals; that a large proportion of these are practical farmers; and it is much to their credit that they have adopted the practice of holding weekly meetings at which the most important principles of farming are discussed, and mainly with reference to their practical application. In the Boston agricultural papers we find reports of these meetings, and from them, principally from the New-England Farmer and Plowman, we have condensed such of the proceedings as would be of most interest to our readers.

TREATMENT OF CALVES.

Col. Jaques, well known as an excellent breeder and close observer of animals, contended for the practice of letting calves suck the cows the first summer. He finds they are better than when reared on porridge, or in any other way he has yet tried. "Col. Jaques breeds cattle that have large rumps and small shins, because he finds the rump pieces bring four times as much in the market as the shins."* He attributed the degeneracy of our neat stock to feeding calves on slops, and then wintering them as recommended by some, on coarse hay. Sheep and calves require open and large yards. Stables are useless, except in severe weather. Milch cows should be kept warm, as it will increase the milk.

Mr. Graves thought it best to take calves from the cows at once, and let them know nothing about sucking. He gives the calf new milk to drink for three weeks, then meal, rye meal is best, then porridge or skimmed milk.

Mr. Allen loved to follow nature in rearing calves. He preferred having the calf run with the cow and suck at pleasure. In this way it would learn of its mother to eat grass and to drink water early. At three months he would separate the calf from the cow and put it in the pasture with the fat cattle.

SECURING BULLS.

Col. Jaques said many lives have been lost by these animals, and none should be allowed to run at large unless properly secured. Rings should always be put in their noses, as they could then be led or handled without difficulty. Turned to pasture, they should be blinded. "This he had done by tieing on a board two feet long and three inches wide, in front of the horns, and then fastening a leather apron to the board, cutting it three cornered, and bringing it to a point at the nose. Such an apron would be no injury to the animal, and he would never attempt to fight or gore any one with this hood on." (We may hereafter give a figure of this apron, as it appears to us to be well adapted for the end intended.)

DISEASED ANIMALS.

It seemed to be the general impression of the speakers that animals attacked by disease should be attended to at once; separated from the others; and the proper remedies applied. Col. Jaques said he had a cow that gave him 12 quarts of milk per day as late as November, when she suddenly fell off to 2 quarts. Her horns were warm; he split her tail and rubbed turpentine between her horns. He then gave her half a pound of brimstone, mixed with half an ounce of saltpetre, put a piece of garget or poke root in the lower part of the dewlap, gave her a warm mash, and she was soon well. As an illustration of the bad effect of giving cows cold water immediately after calving, he said that Col. Wainright applied to him to know what the matter was with his cow. He at once suspected she had drunk too much water. To be certain, he charged the Irishman who had the care of her, with neglecting to give her drink enough. "Oh yer honor," said the man, "but she dthrinked three buckets at one time."

MILCH COWS.

Col. Jaques said he had seen cows that were ruined for milk, by eating too much Indian meal. One cow was fed with half a peck of meal per day, and in a short time her great yield of milk was nearly dried up. The celebrated Oaks cow (of whom President Quincy afterwards remarked, "that he was brought up on her milk, and that she was like Melchisedek, without father or mother, so far as he knew,") which made, after the month of May in one season, 484 lbs. of butter, fell off in consequence of eating too much meal, and gave but very little milk. After she came into Col. Jaques' possession, he turned her out to pasture one whole season, without meal, but he could never bring her back again; she was spoiled for milk.

MORGAN HORSE.

The celebrated breed of horses of this name, Col. J attributed to a cross of the Normandy or French horse He thought this the best breed for all work in the country. High spirited, yet fit for all farm purposes. In training horses, we should be particular to say what we mean, and never call out *whoa,* unless we intended the horse should stop; and the same word should be uniformly used for the same purpose.

SOILING ANIMALS.

Mr. Newhall said he had experimented in soiling cattle. Last summer he fed his cows with rye, green from the field. He had 17 cows, and he fed them 30 days on one acre of rye at the first cutting, and 5 days from the rye of the second cutting. He next used clover, beginning with the early southern, and from that to the later northern. After the clover, he fed them on corn, sown in drills for this purpose. His barn is 110 feet long and 44 wide, with a cellar under the whole. His corn was sowed at the rate of 3 bushels per acre; it came up so thick that no ears appeared; and he found on trying one square rod, that he had 32 tons of green fodder per acre. He considered rye and corn the best articles he could sow for feeding; the rye being early, and lasting until the corn would do to begin on. His cow stable is cleared of manure twice a day, and this is immediately covered with about five times as much peat muck; and he finds a load of this compost better than a load of clear manure. Mr. Newhall sowed southern corn.

Mr. Dodge preferred northern corn for soiling. He had weighed the green corn on a small piece, and found he had at the rate of 39 or 40 tons per acre.

Mr. French had raised corn for soiling, but preferred the southern. It would not be tough if sown thick. He thought well of the practice of soiling cattle, and had long practiced it. By using green fodder in July and August when pastures fail, you increase the quantity of milk, you keep your animals in better condition, and greatly increase the manure saved.

President Quincy said he believed he was the first to introduce soiling into the country; that he had kept the whole stock of cows, which formerly required 90 acres of pasture when they ran at large, on 15 acres only, when shut up and fed with green fodder. He thought the soiling plan would ultimately prevail on all lands suitable for that purpose, near cities. He alluded to the saving of fence in soiling. On the farm, when his grandfather owned it, there was 7 miles of interior fence, now there is none; animals being allowed to run on no part of it. Mr. Q. said his father's plan was to grow such a succession of crops, that the cows should be supplied with green food the whole season. His neighbors used to remark that the old gentleman could farm well as long as he could draw on the banks, but doubted as to this being the best mode of farming. Yet the accounts always balanced well at the end of the year.

FATTENING CATTLE.

Mr. Monson said he had been in the practice of fattening cattle for a long time. He believed that cattle would fatten better, confined to one lot, than when frequently removed to new pastures. He had tried the plan to his satisfaction, and he was convinced that it was not a good plan to shift cattle from pasture to pasture. He found that they gained more fat and tallow when kept through the summer in one pasture, than when shifted.

Mr. Buckminster of the Plowman, said this was agreeable to his experience. That if he could have his lots so divided that his cows could be turned into a new one daily, he would not do it. When they have the whole run, they have a sufficient bite of the new daily growth, which is sweeter than any other.

---

* If by "large rumps" is to be understood those heavy, cloddy-buttocked animals of the Yorkshire breed sometimes found, we must dissent from the Col's. opinion or practice; if, on the contrary, and as we suspect from the Col's. good judgment, he only means those animals that make heavy hind quarters, or take on flesh where it will be worth the most, as the Short Horns and their crosses, he is right.—Eds. Cult.

MANURES.

At a previous meeting, the subject of manures and manuring, underwent a most animated and full discussion. The point of deep or shallow covering of manures, showed considerable difference of opinion among practical farmers. The opinion of some, derived from experience, was that there was little danger of covering manure too deeply, while others controverted this position strongly. The advocates of deep covering manures, adduced Judge Buel as in favor of that practice; while others stated that they had covered so deep that their crops derived no benefit from its application.

We have tried manures on different soils and at different depths, for many years, and carefully noted the results. Our experience has convinced us that all manures which are unfermented should be covered, but not deeply. The use of the covering of earth is to absorb and retain the matters, gases, &c. thrown off during decomposition, and more than is sufficient for this, is useless if not injurious. Composts, or thoroughly rotted manures, may be covered slightly, but will produce better effects on crops, if only harrowed in on the surface, than if turned under deep with the plow. Much too is depending on the character of the soil, in applying manures. Long coarse manures plowed into compact, heavy soils, render it less dense, and are in this way, as well as in the nutrition afforded to plants, useful. In light sandy soils, the object is to give more compactness to the surface, and hence deep covering of the manure, when applied in its long or unfermented state, is best; and it was on such a soil that Judge Buel's experiments were made. In forming opinions on such matters, attention is usually not sufficiently given to the different circumstances of soil, state of manures, &c., hence such conflicting statements as to practice and results. We proceed with our condensation of reports.

PREPARATION OF MANURES.

Mr. Hardy said every farmer has the materials on his own farm to enrich it. How shall he apply them? How make his compost heaps ? I answer, with his yard manure, and his soil mixed with it; and in the room of lime and ashes, give me hog's noses. Writers may talk about their chemical or mineral manures; keep hogs, hogs! Keep them in cellars, and throw in your hassocks; their noses will sooner decompose a hassock, than all the nostrums of the chemists. Hogs will work better than your Irishmen, though it may cost more to keep them. Hogs will work seven days in a week, while you must be pretty lucky to find an Irishman that will work six. If a farmer has a dozen head of cattle, he may make 50 cords, or 200 loads in a year. He must occasionally haul materials from the first of July until December. Others, nigh the city, may buy manure, but I can't afford to haul it to my farm; I can make it for half of what it costs in Boston. Some farmers with 40 head of cattle, make less manure, than others with 7 head. Keep cattle, make your hogs work; no labor is cheaper than that of the hog."

SALT.

The testimony in favor of the use of salt, was very conclusive. Mr. Everett had applied it to corn at the rate of two bushels per acre to keep off worms, and with the desired effect. The corn grew well, and where the salt was strewed most profusely, the crop was most luxuriant. The field had not been plowed for a number of years.

Mr. Merriam said he had used it successfully in destroying worms in his garden. He puts brine in his compost heap, and thinks salt a valuable manure, but too costly for general use. (In the vicinity of our salines in the interior, every advantage for experiments with salt is afforded; and we hope it will be undertaken by many. We think that the refuse of the works, called *bitterns*, would be a capital manure, especially on dry sandy soils. This substance may be obtained in any quantity. It consists of muriate and sulphate of lime, strongly impregnated with chloride of soda. Some who have tried it, speak highly of its efficacy, a result to be inferred from its composition.—EDS. CULT.)

GYPSUM.

Mr. Everett of Princeton, said that he had used plaster in dry ground, successfully; that in a field of potatoes he experimented on four rows through the middle of the field: in two rows he manured in the hill, in the other two, manure was not used. To one of the rows with manure, and one without, he applied about a table spoonful of plaster to each hill. The potatoes had a yellow, sickly appearance, when they were dressed with the plaster, but in a week recovered, and looked well through the season; and the rows with the plaster could be distinguished a mile from the field. When the potatoes were dug, the result was as follows:

1st row with manure alone, it took 28 hills for a bu.
2d " with manure and plaster, 15 "
3d " plaster, without manure, 20 "
4th " neither plaster or manure, 38 "

ASHES AND LIME.

Dr. Jackson said that ashes and lime alone would render a soil fertile. He had analyzed a soil, a blowing sand which had been manured with ashes alone, for 7 or 8 years, at the rate of 200 bushels to the acre, and found there was 3 per cent gain of organic matter after the crop was taken off. Light soils are the most benefited by ashes, while heavy clay soils are but little. The first effects of unleached ashes are the most powerful, but the effect in succeeding years, show that leached ashes are as good. It should be remembered that the lime which is added to leached ashes, more than repays the loss of the alkali.

Mr. Robinson said he had used ashes and lime, mixed, two parts of the first to one of the latter, as a manure for potatoes: half a pint to a hill, at the time of planting, the soil light and loamy. Where the manure was used, 7 hills produced as much as 12 not so manured. The lime had been slacked some time.

We cannot further extend our condensed extracts at this time. The conduct of the Massachusetts Legislature is deserving of commendation and imitation. It is our firm conviction that if a large portion of the time of the legislatures of the several States, that is now occupied in filling our statute books with useless or conflicting legislation, was spent in discussing such subjects as the improvement of stock, the preparation of manures, or the cultivation of crops, the country would be quite as much benefited, and their constituents receive as little detriment as they now do.

FINE MEAT.

The Centre Market in this city presented a rich show on the morning of the 22d of February last. The butchers purchased for that occasion, some of the finest cattle and sheep that could be had. Among the cattle were two very superior cows; one a full blood Durham, purchased of E. P. Prentice, Esq. of this city, and bred in England by the Earl of Derby; the other, also a full blood Durham, bred by Mr. Van Rensselaer, and purchased of Col. Gilchrist. Both were remarkable animals, and though no particular pains had been taken in fattening them, their beef was pronounced of excellent quality. Mr. Prentice's cow had only been fed with a view of killing her, since November last; and previous to that time, she had been kept on extremely poor food—for two winters, having been fed on *nothing but straw*, in the hope of so reducing her flesh, that she might again breed. Mr. Gilchrist's cow had a calf last spring, and was only five years old, yet her beef was of most extraordinary fatness and quality.

The sheep in market were mostly of the Leicester and Cotswold breeds, from the flocks of Messrs. McIntyre, Bullock, Dunn, &c. They were prodigies of fat—the carcases weighing from 130 to 175 pounds each. We noticed an uncommonly fine wether, a cross of the Cotswold and South Down, bred by Mr. McIntyre.

Liberality in good barns and warm shelters is the source of health, strength and comfort to animals; causes them to thrive on less food, and secures from danger all sorts of garnered crops.

DR. LEE'S REPORT.

In the Assembly of this State, on the 7th ult., Dr. Lee, chairman of the committee on agriculture, to whom was referred so much of the Governor's message as relates to agriculture, and also the annual report of the New-York State Agricultural Society, embracing returns from forty-six counties, submitted the following report:

So far as your committee have been able to examine the manuscript essays and official reports made by the State and County Societies, they appear to be drawn up in strict conformity to existing laws, and therefore your committee do not feel at liberty to alter or abridge them in any respect. Taken as a whole, these documents contain a large amount of information of great practical value to the farming interest of the State. The Treatise of Mr. Gaylord on Insects Injurious to Field Crops, &c.; the Essay on the Introduction of New Agricultural Products, and on the Importance of the Geological Survey in its connexion with Practical Husbandry, &c., are worth many times the cost of publishing all the reports. Hitherto it has been customary to print ten times the usual number for the use of members of the Legislature and State Officers, 500 copies for the use of the State Agricultural Society, and 20 copies for each of the county societies. Believing that these documents will compare favorably with any that have preceded them from the same source, and are well calculated to render the agricultural labor of this great State more productive to the community at large, as well as more profitable to the cultivators of the earth, your committee do not hesitate to recommend the printing of the number of copies above named.

In his late message, the Governor says: "The number of acres of land charged with taxes in 1842, was 27,176,934, valued at $504,254,029." According to the State census of 1825, the number of acres under cultivation was 7,160,967. The same authority in 1835, gives the number at 9,656,426. At this time the number of acres under cultivation, probably does not vary much from 11,000,000. According to the U. S. census of 1840, the number of persons actually employed in rural pursuits, was 445,954; while the whole number actually engaged in manufactures, the mechanical arts, trade, internal, coasting and foreign commerce, was 207,172. These brief statistics demonstrate the important truth that agriculture is the great productive interest of the State of New-York.

Your committee deem it not out of place to inquire whether the half million of laboring people, who cultivate eleven millions of acres of fair farming lands, do now realize as large a return for their capital and industry, as is practicable?

In the returns of the census of 1840, the wheat grown in this State, (12,286,418 bushels,) was estimated at $1,20 per bushel; corn (10,972,286 bushels,) at 75 cents; oats (20,675,847 bushels,) at 44 cents; and hay (3,127,047 tons,) at $10 per ton. At these prices, which are now too high by one-third, the aggregate products of all our rural industry were valued at $109,071,416. Reduce this gross sum to $77,000,000, as it ought to be, and divide that by 11,000,000, the number of acres in cultivation, and the average crop was worth only seven dollars per acre.

From considerable experience, much study and reflection, your committee are of the opinion that the 11,000,000 acres of cultivated lands in this State, might be made to yield, without any additional expense, an average of $3 per acre more of the valuable fruits of the earth, than they now do. In other words, the same labor, which is now measurably lost through ignorance of the laws of nature, through inattention to the constituent elements of all cultivated plants, and of the affinities that govern their chemical and organic combinations in practical agriculture, might, by the aid of plain and available science, secure to our farmers ten dollars worth of agricultural products, where they now get but seven dollars worth. For what purpose does the husbandman toil so hard throughout the year? Is it not to transform certain elements of earth, air and water, into cultivated plants; and these again, into domestic animals, beef, pork, mutton, butter, cheese and wool? And what are these elements of earth, air and water, which the well or ill applied labor of the farmer changes into wheat and other grain, into grass and roots? Where is the practical agriculturist to find the raw material of one good ripe wheat plant; and how must the necessary ingredients be combined and applied to the soil, so as to realize the largest crop at the least expense?

To say nothing of the gaseous and earthy elements necessary to make good firm wheat straw, we now take over 12,000,000 bushels of the raw material of wheat bread from our fields every year, and never stop to inquire whether this system of culture will or will not rob our wheat lands of all their bread-bearing elements. Not one particle in a thousand of the elements of bread, after entering human mouths, ever finds its way back again on to the field from whence it was taken. If we are certain that the benevolent Author of our being will create *anew*, annually, 12,000,000 bushels of those particular ingredients which make that amount of wheat, and will keep good all the elements of straw not returned after the harvest, then perhaps our fields may not suffer by continuous cropping without renovation. But Heaven will not create one particle of matter for our especial benefit, though the two and a half millions of people in New-York shall waste the raw material of 50,000,000 bushels of grain every year, until they shall have no more to waste.

To prevent farther loss, and regain all the fertilizing elements taken from our cultivated lands since their first settlement, are objects of great public importance. Man is indebted to agricultural science for the invaluable discovery that not far from 97 per cent of all the elements of cultivated plants exist in the air in exhaustless quantities. These are carbon, nitrogen, oxygen and hydrogen, the two latter forming water. The combustion of wood and coal, the respiration of all animals, fermentation and the decomposition of all organic matter throw into the atmosphere a vast amount of the ingredients necessary for the re-construction of vegetables and animals. To say nothing of water and its elements, which play an important part in all organic structures, *carbon* is the largest and most expensive element in the production of plants and domestic animals. It is the basis of vegetable mold —"the fat of the land"—and combined with the constituents of water, forms veritable fat and butter. It is some consolation to know that there are no less than seven tons of pure carbon diffused through the air over every acre of land, whether barren or fertile, upon the habitable globe.

The earthy part of the wheat plant forming less than 3 per cent of its solid substance, consists of silica, (flint,) lime, potash, soda, magnesia, alumina, (the basis of clay,) chlorine, sulphur, phosphorus, and a trace of iron. All these minerals are indispensable to the production of one good wheat plant. Hence, if a farmer had an abundance of all the other elements in his field to grow forty bushels of wheat on an acre, and it should be destitute of phosphorus, that defect would be fatal to the crop. There is good reason to believe that if a practical wheat grower will restore to his field every year all the raw material of that bread-bearing plant, a large crop can be harvested from the same soil year after year, as well as to let it lie idle, or to cultivate other grain for three or four years and then grow wheat again. Persons unacquainted with the very compound nature of wheat, are apt to imagine that the application of *one* fertilizing element, lime for instance, ought to suffice to produce a good crop. They are ignorant of the fact that every kernel and stem of wheat has twelve other indispensable ingredients in its composition. Millions of days of hard labor are annually thrown away in New-York alone, in a vain attempt to transmute one mineral into another. Our farmers are searching for some strange philosopher's stone that will change lime into potash, potash into magnesia, magnesia into flint, flint into clay, clay into sulphur, sulphur into iron, iron into phosphorus, phosphorus into nitrogen, nitrogen into carbon and carbon into oxygen. When a man can make the half of a thing equal to the whole, then he may raise a good crop of wheat where his soil lacks one-half of the elements of that grain.

Your committee believe it practicable to increase the annual products of our present rural industry 33⅓ per cent, without the aid of one dollar additional capital; that is, they believe that full one-third of all agricultural labor is literally thrown away by its misapplication. The uniform laws of nature will not vary nor accommodate the needless ignorance of man. Hence it follows that man must apply his labor in strict conformity to the unerring laws that govern the changes of matter, or toil on through life giving two days' work for those necessaries and comforts, which an understanding of the laws of nature would have secured to him in exchange for one day's work. The whole doctrine of eternal hard work and penurious living as the best means of acquiring wealth or the comforts of life, your committee deem unsound. The inevitable effect of this popular system is to degrade and brutify, rather than to elevate our race. Mere muscular labor, mere mechanical power, no matter how great its force, without adequate knowledge to guide and direct it, is far more likely to act wrong than right, for the simple reason that there are *five wrong ways* to do almost every thing, where there is *one right way.*

All men have intellectual organs that require development and peculiar nourishment, not less than stomachs which need daily food. Has not the Creator of man manifested his approbation of human efforts to acquire wisdom, even worldly wisdom, by making the *ignorant* in all ages of the world, the *servants of the wise.*

A knowledge of the arts of plowing, sowing and reaping may do for the purpose of wearing out a productive farm, but something more is necessary to enable its owner to give back annually to each of his cultivated fields the precise elements removed by the harvest, and that too at the least possible expense.

Suppose a farmer now cultivates six acres of land in wheat, to harvest 100 bushels, how is he to manage so as to grow 133 bushels at the same expense? If he can raise 33⅓ bushels per acre on four acres, that will give him the amount desired and save the whole cost of cultivating two acres of land. This saving may be set down at $8 per acre, which will give $16 surplus to be expended in purchasing the raw material to produce the extra 66 bushels of wheat on the four acres to be cultivated by a new process. As about 94 per cent of ripe wheat plants consist of carbon and water, charcoal must be an important element in fertilizing the soil. Of the other 6 per cent about one-half is nitrogen, and the other moiety is made up of silica, potash, soda, magnesia, alumina, phosphorus, sulphur, chlorine, and a trace of iron. Let the wheat grower take 100 bushels of charcoal, grind it fine in a bark mill or pulverize it well with flails on a threshing floor, and add thereto five bushels of ground plaster. This would not cost in most farming districts in this State over $7, and if the coal and gypsum be placed in a vat or large tub and saturated with the urine of cattle, or partly moistened with the liquid excretions of the human species, and have five bushels of leached ashes mixed with the mass, it will contain all the elements of 133 bushels of good wheat. In case the urine can not be had, the addition of four bushels of salt will give all the soda and chlorine that is needed, while the ashes will furnish all the potash, silica and magnesia required. The plaster will yield the sulphur and lime, and a bushel of bone dust will give the phosphorus. A little copperas will supply the necessary iron, and the charcoal will not only yield carbon but it will also absorb ammonia always found in rain water when it comes from the clouds.

All these constituents of wheat can be best applied to the soil before sowing the seed, but a top dressing of a compound of coal, plaster, ashes and salt, moistened with whatever urine can be collected, may be applied to winter or spring wheat in April or May, with signal benefit to the crop. Deep plowing and thorough draining are important aids in wheat culture, for reasons which your committee will not stop to explain.

The liberal use of freshly burned lime is very beneficial by the way of correcting any acidity of soil; and also by absorbing carbonic acid from the air, to be given up to the roots of plants, and thereby promote their growth. A pint of human urine contains ammonia enough to supply a bushel of wheat with all the nitrogen it needs. And it is worthy of remark that wheat well supplied with nitrogen in ammonia, will contain from ten to twenty per cent more gluten than it would if it lacked that element, while the wheat that abounds in gluten will make from seven to fifteen per cent more good bread than the same quantity of flour composed almost entirely of starch.

In Flanders, farmers pay forty shillings, or nearly ten dollars a year for the urine of a single cow, for that length of time, to be used in the culture of wheat and other crops. Common sense would seem to teach every agriculturist that he should restore to his fields every particle of the liquid and solid excretions of all animals that feed upon his crops.

A little study of the science of animal physiology would convince every practical farmer that not far from one-third of all the grass, hay, roots and grain that enters the mouths of his domestic animals is needlessly lost, owing to some removable defect in their organic structure. Less than one-half of the solid matter taken into their stomachs is voided by the bowels and kidneys. On an average, more than three-fourths of all the carbon that exists in the food of all respiratory animals escapes through the lungs. The action of these important organs, which never ceases night nor day, governs the elaboration of muscle, fat, milk, and wool, in such domestic animals as are kept for their strength, as the horse and ox; their milk, as the cow; their flesh and fat, as the pig; and their wool, as the sheep.

Your committee do not feel at liberty, inviting as is the subject, to extend this report so far as to explain the means and process by which the organic structure of our six millions of sheep, two millions of neat cattle, and as many swine, can be greatly improved. The loss in one winter by the throwing away of animal heat in this State alone, which heat, be it known, is generated not by burning cheap fire-wood or coal, but by the combustion of the carbon in hay, grain and roots, or of fat in the animal, is not less than four millions of dollars. A man that eats half a pound of beef, two pounds of potatoes, and half a pound of bread, will expel with moderate exercise, carbon enough from his lungs in 24 hours to heat 270 pounds of water from 32 deg. up to blood heat. A knowledge of physiology would be of great practical service to our rural population by teaching them how to avoid many of the exciting causes of disease and protracted suffering.

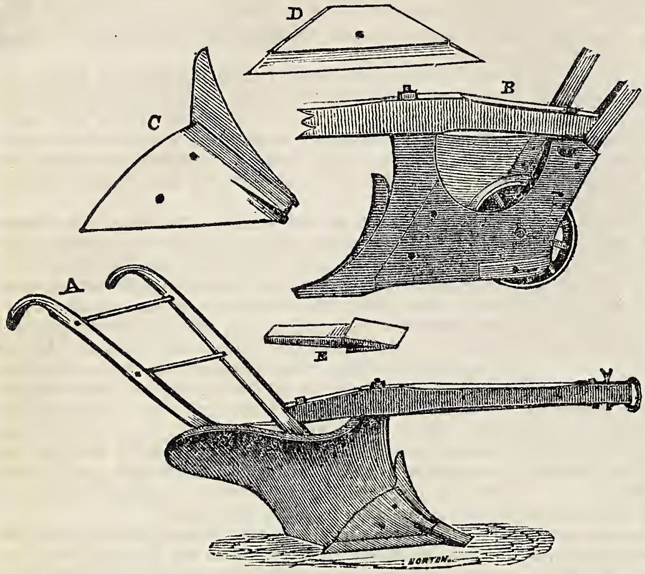
Your committee respectfully suggest that the Legislature might authorize the State Agricultural Society to employ a practical and scientific farmer to give public lectures throughout the State upon practical and scientific husbandry, at no higher compensation to be drawn from the State treasury than the pay of a member of this House, to the great benefit of the agricultural interest of the State. Having visited every rural district and learned the condition of the soil, and in a good degree the precise wants of its cultivators, such person, if otherwise competent, could compile a work admirably adapted to all the peculiar circumstances of our farmers, which might be placed in all our school district libraries, at the expense of the funds of such libraries. A work on practical and scientific husbandry, embracing all the discoveries and improvements recently made in this most important branch of productive industry, and carried home to the fireside of every practical farmer, could not fail of being eminently serviceable to the community at large.

In the opinion of your committee, practical science to be truly useful, should be carried home to the understanding of every mind which controls a pair of laboring hands, that those hands may work at all times to the best advantage. The knowledge of the few, no matter how profound, can never compensate for the ignorance of the many.

There are moral considerations, which might be urged with great propriety in favor of agricultural and mechanical schools, and public lectures upon the natural sciences, inseparably blended with the every day operations of life; but your committee may well leave them to the good sense of the House.

A MOTTO.—The Massachusetts Plowman says—"Farmers cannot afford to keep poor cows, or to keep cows poor."

SINCLAIR & CO.'S PATENT WHEEL SELF-SHARPENING PLOW.



Of this plow, Messrs. Sinclair & Co. give the following description:—"This plow has the advantage of a wheel attached to the land side, *b.* or what may be termed a rolling land-side—has a long curved, high breasted mold-board, *a.* which turns the furrow-slice to admiration; the point and wing are in separate pieces, and are formed so as to be reversed when they become dull, thus forming a self-sharpening principle. The point and share are fastened by a plate *e. d.* secured over them by two bolts, which protects them from the wear of the front edge of the mold-board. The point is made with either wrought or cast iron, and may be used in clean or the roughest lands; the beam of this plow has two bearings on the casting; one on the mold-board and the other on the back part of the land-side, and so attached that it can be thrown to or from the land in a moment."

Price, with cast point and share, $10—with wrought point and share, $12. Made and for sale by R. Sinclair, Jr. & Co. Baltimore.

INFORMATION ABOUT SHEEP AND WOOL.

MESSRS. GAYLORD & TUCKER—I received a short time since, the following letter from Samuel Lawrence, Esq., well known as one of New-England's most intelligent and successful manufacturers, which contains information and hints of a useful character to farmers; and therefore permit me to recommend its publication in your widely circulated and useful periodical. A WOOL GROWER.

Lake Ridge, N. Y., March 15, 1844.

Lowell, Feb. 24, 1844.

DEAR SIR—Your esteemed favor of the 8th, covering some questions, was duly received; and I have now great pleasure in handing you replies.

You ask 1st—"What will full blood Paular wool, after washing on the back, waste by the manufacturer's cleansing?"

The American Paular wool will shrink 40 to 45 per cent. I know a flock of Paular and Negretti selected in Spain by George Flower, Esq., and carried by him to the prairies of Illinois, twenty-seven years ago, which yielded 60 lbs. to the 100, two years since. This wool now strongly resembles Saxon; the fleeces weighed 2¾ lbs. This flock had never been crossed with any other blood.

Query 2d.—"What price did Paular command in July last, and what is about the average weight per fleece in general?"

We paid for full blood Montarco[*] wool in July last, 44 cents; the fleeces averaged 3¼ lbs., and lost by scouring, 44 per cent. We bought no full blood Paular wool.

Query 3d.—"Have you any reason to suppose that Saxon sheep are going out of repute?"

I am well acquainted with a great many owners of Saxony flocks, and in no instance do I know that a change is contemplated; on the contrary, every thing is doing to make the wool finer. I believe that by proper care in crossing, the length of staple may be increased without affecting its fineness. This is a desideratum of great importance to breeders, and should receive their serious consideration. A few years ago it was thought by manufacturers that very short stapled wool only would make fine goods. Now the quality of the staple is looked at without regard to its length. I beg you to give this matter your best attention; for if 8 to 10 ounces of wool can be added to every fleece in the country, it will place both growers of wool and manufacturers on such a basis, that no foreign competition could touch them.

The Saxon sheep were carried from Spain and improved in Germany. Why can't the Merinos be brought up to the same height in this country? We have stapled some American wools of great beauty, and finer than any Spanish wools that ever were imported into this country.

The best blood of Saxony sheep is in very high repute in Europe. It is but three years ago that six hundred dollars each were paid in Germany for a large number to be carried to Russia. I have specimens of the wool. Is there any reason why we can not do as well by starting with the right blood?

As to encouragement to the wool growers, in my opinion, their prospects were never as good; and among other reasons, are first: a majority of the people are coming square up to the mark in favor of a "*protective tariff*," and the wool growers have learnt that *this* kind of tariff, is quite as useful to them with their three hundred millions in sheep farms, sheep, &c., as it is to the woolen manufacturers with their twenty millions in mills, machinery, &c.

Second. There is infinitely more skill employed in the working of wools, and more talent and character in the general management of the woolen business than at any former period.

Third. A number of new branches have lately been undertaken with entire success. The making of *mouislin de laines* has been commenced also under the most favorable auspices; and last, though not least, the horde of "drab gaitered gentry" from Yorkshire,[*] which infested New-York city for so many years, has been broken up and driven from our shores.

The advance in the prices of all kinds of wool will be fully sustained. The article has been depressed below its value, all over the world for three years past; but it has now turned, and a considerable advance has taken place in Europe; the next German fairs will show more animation in the demand than has been seen for a long time.

It is a singular coincidence that when writing you on this subject, I should this moment hear the report of the death of our mutual friend, H. D. Grove, of Rensselaer, with whom I have long been on terms of intimacy; the shock to my feelings is very great, for I was sincerely attached to him. A more reputable and honorable man did not live, and he was truly an honor to his calling.

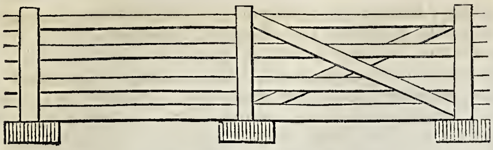
Your ob't servant, SAMUEL LAWRENCE.

BOUNTY ON SILK.—The Legislature of Tennessee has passed an act offering ten cents per pound on cocoons, and fifty cents per pound on reeled silk produced within the State.

---

[*] A distinguished variety of Merino.

[*] Smugglers.



FENCES.—(Fig. 31.)

We find in the Maine Farmer a description and figures of a fence as made by Mr. Dennett of Buxton. It strikes us as a good fence, and worthy of adoption where stone for the sills can be had. The regularity of the stones for the sills, can be of no consequence; it is enough that they are of considerable size, and with a flat surface. We copy Mr. Dennett's description in part, and his figures. It has occurred to us, that in many parts of our country where stone is not convenient, blocks of red cedar or locust, of the required length might be substituted for stone, by being bedded in the ground, and the posts secured to them as to the stone.

"I have stone sills from 4 to 6 feet long, 6 inches square, which I lay level on the ground with a flat stone under each end, where the land is wet and soft. On each sill I strap two posts made of $2\frac{1}{2}$ inch plank; my rails pass between them which are sawn 25 feet long, 6 inches wide, $1\frac{1}{4}$ inches thick. The plank from which the posts are made should be of the most durable kind of wood, and about 14 inches wide. Saw them into 4 feet lengths. Set on 2 inches from each edge at both ends of the plank and saw it in two. See *d*. fig. 32. [At the saw mill, all the posts that a log will make may be cut at once, a great saving of labor.—Eds. Cult.] Now you will have two posts, each 2 inches at one end, and 12 at the other. Fit these two posts to a sill, and mark where to drill the holes for the iron straps, as at *a*. fig. 32." Gains are cut in the inner edge of each post for the rails, $1\frac{1}{4}$ inch deep, so that when put together, the post appears as in *a*. fig. 32. Before placing together, the posts appear as in *b*. fig. 32. The iron straps for securing the posts to the sills are made 8 inches long, $\frac{3}{8}$ inches wide, $\frac{1}{4}$ inches thick. The straps should be let into the sill 2 inches with a dovetail. See *c*. fig. 32. The bottom of the hole in the stone must be the widest, to receive the dovetail of the iron, which is fastened in the stone by a key $\frac{1}{4}$ inch square, drove by the side of the iron strap. The strap is secured to the posts by large nails or spikes two in number. The first length is broad, as shown in the cut, and the bracing is repeated every 15 or 20 lengths. A pin is put through the bottom rails each side of the posts, and a bolt of three-eighths round iron through the posts and top rails as in *a*. fig. 32.

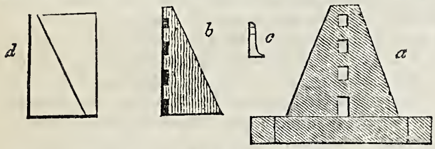


Figure 32.

The cost of this fence is stated by Mr. Dennett to be $1,35 a length of 24 feet, or 92 cents a rod. It appears to us that a cap of $1\frac{1}{2}$ inch boards nailed on the top of these posts, would give the fence more firmness, a little more height, and the top of the posts more durability.

Another fence of a somewhat similar construction has been described to us, much cheaper at first, but which would be less firm and durable we should imagine, than the one above described. Figure 33 will show at a glance, the construction and appearance of this fence.

In this rough sketch of the fence alluded to, the posts, 3 and 4 inches square, stand on flat stones, level with the surface, and are 3 feet in length. The lower board is 14 inches in width, and the upper 12 inches. The cap piece is 5 inches wide and 2 inches thick. Stakes of durable wood at every post, or at every other one, support a rider made of a rail, or better of a long pole, which will reach several lengths. The distance of the posts will be determined by the length of the boards used; it should not be over 10 or 12 feet. As the bottom of the posts are not secured, we should apprehend that winds or animals would shove them from the stones; but if fastened by an iron, spiked to the post, and let two inches into the stone, the bottom, and indeed the fence itself, would be immoveable, so long as the stakes remained sound. The black dots show where the spikes would pass to secure both the bottom pieces at the posts, and the boards themselves.

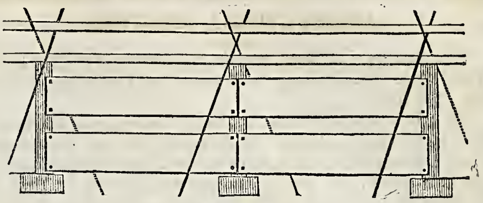


Figure 33.

SHEEP IN VERMONT.

We have received a communication, signed "Old Chittenden," in reference to sheep, their improvement, &c. An unusual press of matter, prevents our giving anything more than a brief notice of its contents. The writer states that he has traveled extensively in 23 States of the Union, and he has nowhere seen sheep that produce as much wool of the same quality, with the same expense of keeping, as some flocks in the State of Vermont. He says there are farmers who have so improved their sheep, as to clip from four to five pounds per head; though when they began, their sheep only averaged two and a half to three pounds. He remarks, that as *profit* should be the main aim of the farmer, he is desirous of learning what methods of breeding and keeping sheep, have been found most successful in this respect, and he wishes practical men would communicate the results of their experience.

"Old Chittenden" speaks of keeping sheep on the western prairies, and on this point, differs from his neighbor, Mr. Jewett. The *dry* prairies, "Old Chittenden" thinks will make the very best sheep pastures. He says he speaks from his own observation—having been much on the prairies. He thinks the prairie farmer will not probably rear as large sheep, or cut as heavy fleeces as the Vermont farmer, but the former will produce them at half the expense.

POINTS OF A HORSE.

It was formerly said that a horse should have three qualities of a woman, three of an ox, three of a mule, three of a deer, three of a wolf, three of a sheep, three of a fox, three of a cat, and three of a snake. Mr. Hooper of the Western Farmer and Gardener, gives the following interpretation of this, from Denton Offutt, the animal manager:

"Three of a woman, deep chest, full bosom, long hair Three of an ox, eye, nostril, joints. Of a mule, hoof, strength, perseverance. Of a deer, head, legs, hair lays well. Of a wolf, breast, loin, lope. Of a sheep, face, patience, mildness. Of a fox, ear, tail, foot. Of a cat, walk, action, leap. Of a snake, sight, memory, and moulting."

Offutt, whose name is mentioned above, we are told, is much distinguished in Kentucky, for his success in taming animals. His rules, (as given in the Farmer and Gardener,) seem to be simple and rational. His first object is to confine the animals in a small space. Then approach them slowly and quietly—induce them to eat salt from the hand—rub them all over with the hands—always moving the hand with the direction of the hair—speak softly and soothingly to them, rubbing them at the same time about the face and head. Feed them only moderately, so that they may be always ready to take food and water. Never strike them a blow.

To prevent a horse from lying down in harness, he says, "tie him down with a rope, so that he cannot get up, and keep him so ten hours. Then let him get up, and work him for an hour. Give him water from your hand, and feed him; this tends to make him like you, removes fear, and restores confidence."

AGRICULTURAL MEETING.

The first agricultural meeting at the hall of the New-York State Ag. Society, took place on Thursday evening the 14th inst.

Mr. Rhoades of the Senate, was chosen chairman; Mr. Humphrey, Mayor of Albany, opened the discussion. He said he had a farm a few miles from the city—the soil sandy. A year ago last spring, he carried out about 250 bushels of horn-shavings. He planted about three acres to corn, and put a very small quantity, only what could be held between the thumb and finger, in each hill, and used no other manure. The corn grew surprisingly, so much so, that it attracted the attention of the Shakers as they passed by it; and they wanted him to have the crop particularly measured at harvesting. He did so, and found there was 126 bushels of ears, or 63 bushels of shelled corn to the acre. The corn was the small eight rowed kind—was all sound and very heavy. He thought the land would not have produced over 15 bushels per acre, if he had not used the horn-shavings or other manure. He also used the horn-shavings for potatoes, and they did remarkably well.

Mr. Bement said he had used horn-shavings. He usually made them into compost with anthracite coal-ashes, muck, &c. He had applied this mixture to corn, potatoes and turneps, and found it excellent. He had used hog's bristles; got about 60 bushels, one year, and used them with potatoes, putting a handful in a hill, at the time of planting. The season was a moist one. Where the bristles were put, the yield was double what it was in other parts of the field, where he used the common quantity of stable or yard manure, though the soil was quite similar. He had also used the refuse of a glue factory, (hair, bits of skin, &c.) which is a powerful manure. He had used fish, also. A few years ago, he got 6 barrels of damaged fish, which he used as manure. He facetiously remarked that he was fond of fish and potatoes, and he thought he would try the effect of mixing them together at planting time. He therefore put half a fish to a hill, on one-half the lot, and on the other half, he put manure. (We did not understand him to say how much manure he used per acre.) The soil was a stiff loam. Where the fish were put, the tops were best through the season, and the yield of potatoes was double what it was on the manured part. The effect of the fish was shown in the succeeding crops of carrots, oats, &c. for three years.

Prof. Emmons said he thought horn-shavings were a good manure—probably better than bones. Both contain phosphorus and ammonia, and bones contain lime. Ammonia is an essential ingredient in Indian corn, being found in the grain. Liebig attributes the action of gypsum to its power of fixing the ammonia; that is, he supposes it to absorb the ammonia existing in the atmosphere, which is thus brought within reach of the plant. Prof. E. would account principally for the action of horns, bones, &c., from their containing the food or elements of plants. He thought the action of the fish spoken of, was prolonged by the animal matter being combined with salt. He spoke of other substances as manure. Nitre, he said, has a tendency to produce large stalks, but not so much grain. In regard to the existence of ammonia in the air, and its being brought down by rain and snow, Prof. E. said he had by evaporation, detected it in snow—it was very perceptible by its scent, and affected the olfactories in the same manner as the hartshorn of smelling bottles.

Dr. Lee spoke in reference to the crop of corn raised by Mr. Humphrey. He thought the ammonia of the horn-shavings produced the principal effect; but it was not wholly by supplying the plant with this substance as food—it had a stimulating effect—by which more root and leaf was formed, and the plant enabled to seek and obtain other food, both from the earth and atmosphere. Plants contain 50 per cent of carbon, and they absorb this substance largely by their leaves; hence, by inducing the plant to put out leaves, its means of obtaining carbon are increased. Common sal ammoniac has been found highly beneficial in stimulating the growth of corn—the corn being soaked just before planting, in a solution of this substance. He alluded to charcoal, which he thinks is the most valuable substance for absorbing ammonia. It is from ammonia that the gluten of wheat is formed, and when charcoal is applied to the soil, ammonia is given off as the growing wheat plant requires. To show the absorbing power of charcoal, he mentioned that Port wine loses its color on being run through it. He looked for a great increase in the yield of wheat from the use of charcoal; he had himself already produced wheat heads 6½ inches long, and containing 140 kernels each. He believed that a yield of 60 bushels to the acre was attainable in this country. The English, said he, have now gone beyond that, and have produced 80 bushels per acre. He thought ashes would be a very valuable manure on the sandy soils in the neighborhood of Albany. The potash would render the flint of these sandy soils, soluble, by which material for the straw would be provided, and by adding charcoal and bones or horn-shavings, the ammonia, phosphorus, &c. necessary for the grain, would be supplied. If the charcoal was saturated with urine, it would be better, because this would give the elements of the grain at once. He would also use some lime on such soils; though where lime is scarce, he would recommend only a moderate quantity, say 10 bushels to the acre. This he would apply at the time of sowing the seed. Clay would probably do well on these sandy lands. Clay has an alkaline quality, and hence its action would be in some degree similar to ashes; besides it would act mechanically, by rendering the soil more retentive of water, &c.

Dr. L. alluded again to Mr. Humphrey's corn crop. Mr. H. took off 60 bushels of corn per acre. Now the horn-shavings did not actually make half this. What then was taken from the soil? In the stalk and leaf, he took off that which in some shape should be returned to the land. If when the corn was husked, the stalks had been immediately plowed into the land, he thought the matters which the corn had taken out of it, would have been nearly restored. If the stalks were eaten by cattle, then both the dung and urine should be put back on the land.

Mr. J. C. Fuller of Skaneateles, said he was pleased to be at this meeting. He found himself among scientific men, and perhaps it would be better for him to do as a friend once told him he did—that is, keep still and see what others did—but he would make a few remarks. He would repeat that he was glad to see a disposition to encourage such meetings; *farmers* should come here, and bring their sons with them. He had noticed the remarks that had been made about horn-shavings and other substances, used as manures. He had been interested in what had been said; but he wanted to know one important thing which he believed had not been mentioned, and that was, how much these substances *cost*—how much *profit* there was in using them. His object was to see how much *money* could be made by any plan or mode of operation.

In regard to the mode of applying lime, he thought the best way was to put it on the ground, before it was slaked, in small heaps, and throw a little earth over it, and let it thus remain till it is slaked.

He spoke of the agriculture of England, his native country. He said he had spent a considerable part of the last year in that country. Great improvements had been made there within a few years. It might be said that they were much in advance of us; yet many of their modes of farming are not adapted to our circumstances. We must, therefore, have a system in some degree peculiar to ourselves; and it should be the object to seek such modes as are adapted to our climate and general condition. He would not discourage improvement; he was in favor of it, but he thought farmers might well use caution in adopting untried schemes. The chemist may make useful suggestions. He had formerly some acquaintance with chemistry himself; but he believed men might be good *farmers* without being good *chemists*. He knew many such in England and in this country.

Some remarks were made by the chairman, also by Mr. Horsford, Prof. Hall, and Mr. Strong, which for want of space, we are obliged to defer.

The meeting was adjourned to Thursday evening next.

NATURAL FERTILITY OF WESTERN LANDS—DETERIORATION FROM CULTIVATION, &c.

The west is justly famed for its fertility. The alluvial banks of the Ohio, with its tributaries the Muskingum, Scioto, Miami and Wabash, as well as many other portions of the great valley of the Mississippi, are probably unequaled for richness, and the luxuriance of their productions, by any portion of the globe. The citizen of the northern and less fertile sections of our country, on passing through these rich vales in the midst of summer, and for the first time beholding the exuberant vegetation which there springs almost spontaneously from the earth, is struck with astonishment! From some points, his eye rests with admiration on the dark-green corn-fields, stretching for miles before him, and embracing at a single glance thousands of acres! Neither is his wonder lessened as he views the stately magnificence of the plant itself. The corn which the stranger here sees, is not the dwarfish thing which he or his fathers may have cultivated on the rocky hills of New-England, but a larger variety of that "*king of vegetables*," whose topmost leaf is higher, perhaps, than the walls of his own dwelling! Here may be seen from 100 to 400 acres, and sometimes even 600 or 700 acres of corn, belonging to a single individual; from 100 to 300 head of cattle, and 100 to 500 hogs being annually fattened from the produce of a single farm.

But the extraordinary productive power of these lands, appears to the best advantage when the length of time to which they have been subjected to an exhausting cultivation, is considered. We will cite a few instances as examples. Mr. F. Renick, a distinguished farmer near Chilicothe, Ohio, has cultivated corn near forty years successively, on his farm, and has obtained an *average* of *sixty bushels* per acre—no manure having ever been applied.

The crop of corn for which the Muskingum Co. (O.) Ag. Society gave the premium last year, was grown by Mr. Hosea Woodruff, near Zanesville. The land on which it grew, had been cultivated without manure, twenty-eight years—twenty-six years of which, it had been in corn. There were fifteen acres in the lot, and Mr. W. had about fifty acres of nearly equal product. The crop was cut and put up in shocks of as nearly equal size as practicable—a portion of the shocks, which it was thought would show about an average of the yield, were husked and measured; and assuming this as an average, the product was *ninety-nine bushels* per acre.

Other instances as remarkable might be given, but these will answer our purpose.

From a cursory glance, the idea might be entertained, that all circumstances most happily conspire to render this, of all other regions, the most desirable to the agriculturist. But by a more minute examination, it will be seen that in this case, as in most others of a similar nature, the advantages and disadvantages are so nicely balanced, as to leave no cause for charging nature with partiality in the bestowment of her favors. As Goldsmith, (with a little variation,) has said,

> ———————— if countries we compare,
> And estimate the blessings which they share;
> Though men may flatter, still shall wisdom find
> An equal portion dealt to all mankind.

The farmers of the fertile region of which we have spoken, are subjected to immense risk and trouble in conveying their produce to market. Their beef is sold "on foot" in the eastern cities—Baltimore, Philadelphia, New-York and Boston—their cattle being thus obliged to perform journeys of from four hundred, to more than a thousand miles in extent. The soil of a very considerable portion of that country, is not suited to the production of wheat; Indian corn being almost the only grain that is cultivated; and the difficulty of transporting this article to a distant market without damage, or without incurring an unwarrantable expense, obliges the farmer to feed it to cattle and hogs, which, with other circumstances, tends to keep beef and pork at a very low price.

But we have thus far spoken only of the *best* soil under good cultivation; and it should by no means be inferred that what we have said of such lands, will apply universally, or even generally, to the western country. It must not be inferred that the soil of the whole of that region is of such inexhaustible fertility. There are poor lands there, and a very large portion of all, may be said to be of not more than medium quality; yet in the cultivation of the inferior soils, as little attention is generally paid to prevent exhaustion, as with the richest ones. The consequence is, that the older settled portions of the west, exhibit, in too many cases, the most striking evidences of rapid deterioration. We speak more particularly of some of the hilly and wheat-growing districts of Ohio. The most prominent defect in the husbandry, is the too frequent use of the plow, and running the land too much to grain crops, without manure and without the use of clover or grass; by which course the land is much impoverished, and greatly injured by the washing of rains, and by the growth of foul stuff which the slovenly cultivation has permitted to spring up. So bad has been the management, that land which only a very few years ago produced good crops of wheat, now yields only a scanty harvest that scarcely pays for the gathering. But the injury from bad cultivation is not confined to the hills; it is often seen on the level lands and "bottoms." No soil but that of the very richest quality, could be subjected to this devastating course, without exhibiting signs of deterioration.

The system of *renting* which prevails in many districts, is the cause of much bad management. The tenant occupies the land only on an annual lease, perhaps, and the terms are such, as in connexion with the low prices of produce, oblige him to go on the *do-for-the-present-plan;* the *skinning* course is the only one for him. The present crop is the only one thought of. The fields become hemmed in with bushes and brambles; elders and rank weeds gradually get possession of favorable spots in the interior, and they are left to grow and flourish, gaining strength and wider possession every year, because each occupant cannot (or supposes he cannot) afford to eradicate them. Neither are these appearances confined to rented land; they are seen under the management of the owner himself.

As before observed, but little care is used in saving or applying manure; the first settlers appearing, too generally, to have adopted the strange idea, that *all* the land would alike bear continued cropping, without giving to it any return. So common seems to have been this notion, that it is not very unusual to see the stables and hog pens, (where such things as hog pens are used,) placed in situations, where the manure may be got out of the way without the trouble of carting it. For this purpose, they are sometimes placed near steep banks, or over small streams or "*runs*," where as the manure falls, it may be carried off by the water. More than one instance has been seen, where having failed to secure the most *favorable* site, the stable has been actually pulled down and rebuilt in another place, to avoid the inconvenience occasioned by the accumulation of manure! And this too, where the stinted crops showed the most obvious necessity of returning to the impoverished soil some portion of those fertilizing substances of which it had been so unwisely deprived.

In this section of country, as in others where the same wasting course is praticed, the last remedy, the grand escape from all its troubles, is to "sell out" and emigrate to the west, the *west, west,* that *Hesperian Elysium,* which like the beautiful rainbow, recedes as it is approached, leaving its visionary pursuer in disappointment at last. Yet will this *ravaging* population move on, spreading desolation as they go, till having overleaped the Rocky mountains, and being finally checked by the wave of the Pacific, they will probably *weep* that there are "no more worlds to conquer!"

Let not our remarks on this subject be misunderstood. Although the practices we have been here deprecating are far too common, yet examples of good farming may be found in the west, that will bear a comparison with any in other parts of the country. It is only to be regretted that such instances are too rare.

Cure for Corns.—Our correspondent, Mr. John M. Johnson, says corns on the toes may be removed by two or three applications of the *oil of spike,* before going to bed.

COMMON SCHOOL LIBRARIES.

We have received the "Second Annual Report of H. S. Randall, Superintendent of Common Schools of Cortland Co., together with a Special Report on School Libraries; prepared by direction of the Superintendent of Common Schools of the State of New-York;" and have examined it with great interest and satisfaction.

The first part of the Report is devoted to an exposition of the state of schools in Cortland county, and some suggestions as to the best methods of rendering our admirable system still more effective. Mr. R. expresses his conviction "that the condition of the common schools, as well as the standard of teacher's qualifications, is manifestly and steadily improving;" and in this opinion we fully concur. Among the suggestions for the further improvement or advance of the system, is one, that the State Superintendent visit annually, say half of the counties in the State, when a convocation of the teachers of the counties, with drafts from the several schools would be in attendance; an event which would form an incitement and reward to exertion in the scholar, and skill and attention on the part of the teacher. We have no doubt that such a course, if practicable, would be attended with the best results. It certainly deserves consideration.

The second part of the Report, occupying about 30 pages, is devoted to the subject of Common School Libraries, and is evidently the result of much observation and reflection on the workings of this important part of our system. In the language of Col. R., "New-York has the proud honor of being the first government in the world, which has established a free library system adequate to the wants and exigencies of her whole population. It extends its benefits equally to all conditions, and in all local situations. It not only gives profitable employment to the man of leisure, but it passes the threshold of the laborer, offering him amusement and instruction after his daily toil is over, without increasing his fatigues or subtracting from his earnings. It is an interesting reflection that there is no portion of our territory so wild or remote, where man has penetrated, that the library has not peopled the wilderness around him, with the good and wise of this and other ages, who address to him their silent monitions, cultivating and strengthening within him, even amidst his rude pursuits, the principles of humanity and civilization." The importance and certain influence of our School Libraries in giving tone to the moral character of our population, is strongly enforced; and as a necessary consequence, the great care of selection is urged upon those entrusted with this duty. New-York owes much, in our opinion, to the present able State Superintent, for the decided and correct stand he has taken on this subject, for arresting the flood of trash, of "tales of atrocity, seduction, or sickly sentimentality," which was beginning to overflow these repositories of knowledge, and convert what may be one of our greatest blessings, into a source of almost unmixed evil.

The kind of books most suitable for school libraries, their size, useful as distinguished from amusing, juvenile books, moral tendencies, sectarian books and what is to be understood as such, political books, miscellaneous books, &c. &c., are all respectively treated, and in an able manner. On what is usually termed sectarian works, the report is peculiarly lucid and conclusive; and though some may possibly be found to dissent from the conclusions arrived at, they will without doubt, be satisfactory to the great mass of those interested in our school libraries. The same may also be said of his remarks on what are termed political books.

Our acquaintance with the books most read in these libraries, and our knowledge of the class of young persons most likely to be benefited by them, and form their habits and tastes from their perusal, induces us to concur with his remarks made under the head of "juvenile books," to a great extent. The child between six and twelve years, requires a very different class of books from the youth of from twelve to sixteen; but too many of our school libraries, show no recognition of such a distinction; and while mental aliment in abundance is provided for the last class, the first seems to have been almost entirely overlooked. The habit of reading in most children, is acquired early, or not at all; the importance of books that will interest such, is apparent, and we are glad to find Col. R. recommending such books as "Parley's Magazine," and the "Rollo Books," to a prominent place in the school library.

We thank Col. R. for his valuable Report, and hope it will find a place in every school district in the State. For the length of this notice, we offer no apology. The object of the Cultivator is to improve the "Mind" as well as the "Soil," and every thing that has reference to the instruction of the young, is clearly within the scope of our publication, and on account of its intrinsic merits, deserves a prominent place.

STATE PREMIUM ON CORN.

If the reader of the Cultivator will turn to page 53 of the current volume, he will see that in addition to the usual premium for the best corn crop, there are also three premiums of $25, $15 and $10, for the best conducted experiments in the culture of Indian corn; not less than one acre to be experimented upon, and the report to embrace every detail necessary to a full understanding of every part of the proceeding.

When it is recollected that corn is one of the most important crops, if not *the* most important one cultivated in the United States; that there is not one on which good culture and good management produces more magical effects; that there is none in which the plant is more readily improved in productiveness by care and skill; and that all must admit there is a most lamentable want of knowledge among farmers as to the best mode of planting, manuring and cultivation, the importance of these premiums will be found second to none offered by the Society, and we hope will call into requisition the skill of many of our best cultivators.

Every one who enters upon the experiment, will of course choose his own method of operating, but there are some things requisite to the completeness of the experiment, and necessary to be embraced in the reports made, which it may be well enough to mention here.

In the first place, the natural condition of the soil, its geological and mechanical composition, as far as practicable, the previous crops and treatment for two or three years, the preparation for the crop, plowings, harrowings, manurings, &c.

In the second place, the kind of corn used for seed should be fully described; the quantity used per acre stated; the manner of planting, whether in rows, drills, &c.; whether manured in the hill, and what manure used; whether top dressed, and whether the plants were hilled or the surface left level.

In the third place, the treatment of the crop; the number of hoeings; the securing of the crop, whether by cutting up or by topping; the measurement of the crop, whether by weight or by measure, with the cob or shelled, and the time of doing it; in short, every thing that can give an accurate knowledge of the time, labor and expense of producing the crop, or the several parts of it.

It seems to be particularly desirable, and we know it to have been the intention of the proposer of these premiums, that there should be as much diversity of culture introduced into each experiment as possible. That the effect of different methods and distances of planting, of different kinds and quantities of manures, and different modes of application, different modes of culture and curing, and the difference of labor and expense in each case may be known, as compared with the product, and a guide to the operations of the farmer in corn culture be established, so far as such experiments will establish, such variations in each experiment would seem to be proper. We throw out these suggestions at this time, in the hope of calling the attention of farmers to the subject, and inducing if possible, many to enter the list of competitors.

New variety of the Turnep.—Mr. Breck, editor of the N. E. Farmer, at a late agricultural meeting at the State-house, Boston, spoke of a new kind of turnep, called the "Early Snow-Ball," which he says is an improvement on the White Dutch, and is decidedly superior to any yet cultivated.

NOTICES OF BOOKS, PAPERS, &c.

Farmer's Encyclopedia and Dictionary of Rural Affairs, by C. W. Johnson, Esq. adapted to the United States by G. Emerson. This work, which has been issued in numbers, is now completed, and is offered for sale at $4. It is an excellent publication, and we trust it will find a ready sale. The American edition has received many additions, which will render the work more valuable than the English edition. It is published by Carey & Hart, Philadelphia.

Prize Essays on Manures.—We have been furnished copies of Dr. Dana's Prize Essay on Manures, which was noticed in the last volume of the Cultivator; and the Prize Essay read before the Berkshire Agricultural Society, at its meeting in October, 1843, by Asahel Foote, Esq.

Of Dr. Dana's Essay, we can only repeat the commendation of its matter and its manner, we have before given. It is at once scientific and practical; it gives the effect and the cause, and we think no farmer can peruse it without advantage.

Mr. Foote's Essay is a most valuable compilation; well arranged, plain in its statements, and abounding in facts. It shows a close investigation of the subject, and a thorough acquaintance with the best sources of information on this topic; and is alike honorable to the writer and the society that called him out. That these works will have an extensive circulation, and do much towards reforming the erroneous practices too prevalent among farmers, in their preparation and treatment of manures, we cannot doubt.

Prof. Liebig's Familiar Letters on Chemistry.—Mr. Campbell of Philadelphia has furnished us with a copy in a neat pamphlet form, of this late production of Prof. Liebig's; and we should notice it more at length, had not a correspondent in a late number, given an able and satisfactory account of its contents. It contains 16 letters, and consists mainly in a recapitulation of the doctrine advanced by him in his former great works, and an explanation of some points on which he appears to have been misunderstood. They exhibit evident traces of the profound intellect and persevering investigation, which mark his other publications, and which so far as the chemistry of animals and vegetables is concerned, has created a new era in science.

Geology for Beginners, by G. F. Richardson, of the British Museum. Second edition—Longman & Co., London; Wiley & Putnam, New-York. We acknowledge the reception of a copy of this valuable work from the London publishers. It comprises a familiar explanation of Geology and its associate sciences, Mineralogy, Physical Geology, Fossil Conchology, Fossil Botany and Paleontology. As a work for beginners in the study of Geology, it seems admirably adapted. The contents are arranged in so interesting and attractive a light, that when the examination is once commenced, it is sure to be continued. The book is accompanied with a handsome frontispiece, representing the shores of the primeval ocean, when the vegetation of our globe consisted only of those trees and plants, the remains of which are now discovered buried beneath its surface—when the only animals were those of the lowest orders. Reptiles, some of which are of enormous size, are seen in the water and on the land; and some have even the power of flying in the air. We most cordially recommend the work to all who feel interested in such studies.

Simmonds' Colonial Magazine—*A Journal of Literature, Art, Science, Commerce and Finance.* Edited by P. L. Simmonds, London. The principal design of this work seems to be that of giving correct and valuable information relating to the colonies of Great Britain; but it also collects and disseminates much useful intelligence on the commercial and political relations of the world in general. Judging from the two numbers before us, and from the acknowledged ability of Mr. Simmonds to conduct such a work, we have no doubt it will prove highly interesting. Among the contents of the numbers received, are the following articles:—Navies of the world—Original Treatise on the cultivation of the Sugar Cane—Notes of a residence in Van Dieman's Land in 1842-3—Recollections of Algeria in 1843, with illustrations—The Oregon Question—Culture of Cotton in Jamaica—State Affairs in New Zealand—Bituminous lakes in Texas, &c.

"The Farmer's Mine."—Mr. Heermance, the author of this work, writes us that our "notice of it last fall, has done and is still doing him great injury." He says:—"Among other things, I am charged with the grossest plagiarism." In this he thinks we have done him injustice, inasmuch as he says in his preface,—"In the following compilation, I have selected largely from the Farm House of the 19th century, also from Dana, Gaylord, Liebig," &c. This general acknowledgment, however, in our opinion forms no excuse for the manner in which this book is got up. Parts of it are *credited* in the body of the work to the several authors alluded to, while other and *much larger* portions are given as apparently original. For instance, the "Introduction," occupying six pages, appears as original—at least as much so as any other part of the book—whereas it is copied word for word, with the exception of eight lines, from the Prize Essay of Mr. Gaylord. The title-page says the work contains "much new and important information on the subject of manure," and the person by whom it was "revised and corrected," says that is "one of the most valuable works on manures which has been issued from the press for a long time"—and that the author "has been some time a practical and scientific agriculturist," and "recommends nothing, the value of which he has not himself tested." We shall be greatly obliged if the author or revisor will inform us how we are to distinguish between the *original* and *selected* portions of the work, that we may know what part of it contains the results of Mr. Heermance's experience.

The Central N. Y. Farmer.—At the commencement of the present year, this paper, published at Rome, appeared in a new form and new typographical dress—a very decided improvement both in form and appearance. It is edited by C. N. Bement, B. P. Johnson (Cor. Sec. of the State Ag. Society,) and E. Comstock—all well qualified to make—as they do—an excellent paper. Monthly, at 50 cents a year.

New Genesee Farmer, edited by M. B. Bateham, Dr. D. Lee, and T. C. Peters. Published monthly at Rochester, at 50 cents per annum, in advance. It is only necessary to announce the names of the editors, to show that it is conducted with skill and ability.

The Prairie Farmer.—This excellent and well filled sheet, commenced its 4th volume with the present year. It is edited by J. S. Wright and J. A. Wight, and is one of the very best of our agricultural periodicals, being ably conducted, with a large list of contributors, and beautifully printed. Monthly, at $1 a year. It will give us much pleasure to order it for any of our friends, who may wish to know what is doing in the prairie country. Published at Chicago.

Western Farmer and Gardener.—This work, commenced by Mr. E. J. Hooper, and afterwards managed by Messrs. Affleck and Foster, has now passed into the hands of Mr. Hooper (its former editor,) and Mr. Chas. W. Elliott. It has lately assumed more of a horticultural character, and in this capacity, as well as that of an agricultural journal, we are satisfied it will prove eminently useful to the west. Each number contains one or more copper-plate engravings of fruits, by Mr. Foster, which are generally exceedingly well executed. We sincerely recommend the work as worthy the patronage of the western farmers and gardeners. It is published monthly at Cincinnati, at $1 per annum.

The Western Cultivator.—A dollar monthly commenced at Indianapolis in January, by W. T. Hatch. Well edited, and handsomely printed.

British American Cultivator.—This is a spiritedly conducted agricultural paper, which has now reached its third volume, published at Toronto, U. C. It is issued monthly, in a quarto form, with 16 pages, at a dollar a year in advance. Edited and published by W. G. Edmundson.

Canadian Agricultural Journal.—We have received the first three numbers of this paper, lately commenced at Montreal, L. C., edited by **William Evans**. This is an octavo of 16 pages, well filled. It appears to be well deserving of patronage. Terms, one dollar a year in advance.

Medico-chirurgical Review.—This is a work which deserves extensive patronage, as its contents cannot fail to be interesting and useful to all who have the opportunity of perusing them. Among the numerous articles in the Jan. number, we have been particularly interested, (as pertaining more to our vocation,) with the notice of Lectures on Comparative Anatomy and Physiology of the Invertebrate Animals—Physiological Anatomy and Physiology of Man—Glanders and Farcy in Horses and in Man, from the Veterinarian—remarks of M. Dumas on the Fattening of Cattle, &c. &c. This Review is published quarterly, by R. & G. S. Wood, New-York, at $5 per annum.

DEATH OF HENRY D. GROVE.

Soon after our last number went to press, the news of the death of our much respected friend, H. D. **Grove**, Esq., reached us. With the general and unfeigned regret which is felt in view of this event, we most sincerely sympathise. At our request, a friend has furnished us the following obituary:

Died, at his residence in Hoosick, Rensselaer co., N. Y., on the 22d of February, **Henry D. Grove**, Esq., aged 40 years. He was a native of Germany. Possessing a spirit of enterprise, and a soul uneasy under the arbitrary restraints of European government, he early in life sought relief therefrom by emigrating to this country, about eighteen years since. He soon made himself familiar with the language and character of our people. By his correct deportment, his intelligence and enterprise, he commended himself to an extensive acquaintance of admiring friends. The respect which he commanded, arose not from adventitious circumstances. His was not the reflected light of a "long and illustrious line," grown dim in its passage down the vista of time; but it was txe clear, transparent ray which emanates only from true genius and real worth. With a mind possessed of an unusual share of intelligence, generous and refined in his taste and feelings, honourable in his intercourse, pleasing in his person and commanding in his address, he belonged indeed to "nature's nobility." Mr. Grove was an enlightened agriculturist; theoretic without being visionary, and practical without rejecting the improvements and advantages derived from a proper application of science, he contributed much to its advancement within the sphere of his influence. He was particularly devoted to sheep husbandry, and has rendered a valuable service to this country, by disseminating knowledge in the management of flocks. He was the first and principal importer of the Escurial Saxony sheep, which have contributed so much to improve the quality of the American fleece, and consequently elevate the character of our woolen fabrics. He was one of the pioneers, the founders of our State Agricultural Society, and has continued one of its most useful and efficient friends. The county in which he resided, the neighborhood where he lived, will long have cause to regret his loss. Popular education, and indeed most of the benevolent enterprises of the day, have lost in him a warm advocate, a patron and friend. In the social circle, he was highly esteemed; and in domestic life, he sustained fully the responsibilities of those tender relations. But he is gone. The angel of death, with an aim,

> "Sure and steady as the eye of destiny,"

has made him her own. No more shall we hear his merry laugh; no more be greeted by his happy salutations. He fell suddenly; in the meridian of life, in the full vigor of manhood, in the midst of his usefulness, was he stricken down. He fell in a land of strangers, far, far from his kindred and his native home. Yet he went down to the grave followed by an unusual concourse of friends; with a reputation unspotted, and a character untarnished. Honored and esteemed in life, he will be deeply lamented and mourned in death. His memory will inherit a "green old age," bedewed by the tears of an afflicted family, and an extensive circle of friends.

SUMMER WHEAT.

There are large sections of our country in which, owing to the character of the soil, or a defect in its preparation, winter sown grain does not usually succeed: and the chances of failure from freezing out is so great as to render the attempt of fall sowing wheat, of doubtful propriety. In all such places, the culture of spring wheat is of the first importance, and fortunately, when conducted in a proper manner, rarely fails of a handsome remuneration for the labor of the farmer; and even where winter wheat succeeds well, circumstances may render it desirable to grow more grain than can be sown in the fall, when a few acres in summer wheat will prove a profitable crop.

Spring wheat requires that the soil should be in good condition, clean or free from weeds, and hence succeeds generally better after root or hoed crops, than on freshly manured lands. Recent manuring, unless with thoroughly decomposed matters or compost, is injurious, as giving too rank a growth to the straw, causing it to lodge or fall, and preventing the filling of the kernel. We have rarely found summer wheat to fail of a good crop, sown after potatoes or corn, to which manure had been liberally applied. We have also grown fine crops of this grain on sward lands or clover lays, turned in the fall, rolled closely, and allowed to pulverize by the winter's frost. We prefer fall, to spring plowing in this case, as, unless extraordinary matters forbid, land can rarely be turned and fitted for sowing, as early as this grain should be put in the ground.

In our culture of this crop, we have succeeded best with grain sown early. It has rarely failed, thus put in; it gets its growth before the intense heats of summer come on; it is not so liable to fall, and what is of still more consequence, the berry will be fuller and heavier, and the yield greater than if the sowing was longer delayed. Where the wheat worm has infested this crop, very early or very late sowing, has been found one of the most effectual preventives. Sown before the middle of April, or after the middle of May, the grain generally escapes; in the former case, the insect not appearing until the proper state of the grain for the deposition of the egg has passed; and in the latter case, the period of the insect has usually passed before the grain comes to the stage in which it suffers most from the fly.

Few crops are benefitted more by change or choice of seed than this; but whatever may be the kind of seed, it should never be sown without a thorough preparation. Soaking in brine, carefully skimming it during the process, and then drying in caustic or new slaked lime, has with us proved the best course of treatment. These salts not only contribute to giving the plants a vigorous and healthy start, but tend to keep it free from smut; a disease to which this grain is liable. Summer wheat will not make superfine flour, it having a slightly yellow cast, but it makes superior bread, containing a large portion of gluten, and sufficiently white for all useful purposes. On favorable soils, the yield is from twenty to thirty bushels per acre.

Death.—Died in this city on the 8th of March, of consumption, Mrs. **Mary S. Tucker**, wife of the proprietor of this paper, and daughter of the late Eebenezer Sparhawk, Esq. of Rochester, Vermont, aged 38 years. Her life was a beautiful exhibition of the principles of the Gospel, and her death, that of the firm consistent christian, peaceful and happy.

INFORMATION WANTED.

Drill Barrow.—I observe in the second volume of the Transactions of the N. Y. State Ag. Society, a notice of a drilling machine invented by Jonathan Battey, of Peru, Clinton Co., of uncommon excellence. Will the inventor favor the readers of the Cultivator, with a description? Much difficulty has been experienced in procuring such as are adapted to sowing beet seed, and a description of J. Battey's machine would doubtless be of value to many.

T. J. T.

MANURES.

"Gentlemen—Will you through the medium of your valuable paper be so kind as to reply to the following queries:

1. When stable manure is not to be had, what is the best substance to mix with swamp muck, so as to make it profitable as a manure ?
2. Will lime without any thing else answer the purpose?
3. Are ashes better than lime ? or would ashes and lime mixed together be better than either of them separate ?
4. Would salt be of any use ?

Essex Co., N. J. T. C."

Experience as well as chemical analysis, seems to have determined that for the conversion of peat or swamp muck into manure, there is nothing, after stable manure, within the farmer's reach equal to ashes. If the ashes are unleached four or five bushels, and if leached about double the quantity, are sufficient for a common load, or two-thirds of a cord of muck. If the muck has been exposed to the action of the air, so as to be in a fine, or decomposed state, these materials may be thoroughly worked together, and used at once for a crop. But if the muck is clearly undecomposed, or contains much vegetable fibre, the mixture of ashes with it should take place some time before using. There can be no doubt of the great value of this compost; and it is prepared so easily, that it is a matter of surprise it is not more extensively used.

Lime, alone, has been used as part of such a compost, and in some instances with success. The case of Mr. Benedict, of Pittsfield, Mass., is of this kind. His compost heap was made in the fall of swamp muck and lime, a bushel of lime to a load of muck, as it came from the bed, and well mixed. In the spring, he manured part of his corn-field with this compost, a shovel full in a hill, and the remainder in the same way with manure from the stable. The whole crop was a fine one, the compost fully equalling the manure. We, however, should have more faith in the ashes than in the lime; perhaps because we have tried the first, but not the last.

We do not know that any particutar advantage could be gained by mixing ashes and lime together; but the experiment might be easily made where both materials were at command.

We question whether salt would be of essential use alone in forming such a compost, but if used in the manner recommended by Dr. Dana, it would doubtless be an important auxiliary. He recommends to saturate water with a bushel of salt, and with that slack a barrel of lime. After the lime has lain ten or twelve days mix it thoroughly with three cords of muck or peat. The mass is to be turned with the shovel occasionally for five or six weeks, when it may be applied to the soil. Mixed with lime in this way, chemical changes take place, which give a value to both the salt and the lime they could not before possess.

But the man who has a supply of swamp muck, has the means of restoring fertility to his soil, even if he has no ashes, stable manure, or lime. He has but to draw and spread it, or pile it up in heaps where wanted, and the action of the atmosphere will do much towards converting it into manure. If he has yards or pens, let a large supply of it be kept in those places, to receive the urine and wash of his yard, or to let his pigs operate upon, and he will find his and their labor well bestowed.

☞ Our good friend "P." of the Southwestern Farmer, need give himself no uneasiness about the subscription to the Cultivator. If it is not "killed" till it has "less than 3000 to 5,000 subscribers," it is likely to live to a good old age. P.'s insinuations and presumptions are alike unjust. The sales of the Cultivator have at no time been less than 12,000 vols. per year, and he will doubtless be glad to learn that it will probably much exceed that number this year.

APPLICATION OF MARL.

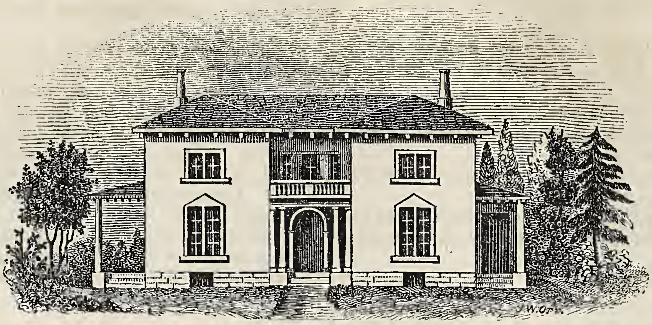
"I should be much pleased if you or some of your numerous correspondents, would give through the columns of the Cultivator, the best system of managing marl; whether it should be dug out and spread immediately over the surface, or put in the hills or drills; whether it should be suffered to lie some time in heaps after it is hauled up, or whether it should be mixed with other manures? I am myself at a loss on these points; also as to the quantity that should be spread over an acre. I believe shell marl abounds throughout this region of country, but as yet we have scarcely attempted to raise it from its bed, though we contemplate soon making a trial of it.

Eufalla, Alabama, 1844. A. M'D."

There are several varieties of marl used for the improvement of land; but the principal distinction is the one existing between the shell or calcareous marl, and that which contains the green sand. The former is the proper marl, and owes its value principally to the lime it contains, and this varies from twenty to sixty per cent. The green sand marl, which is the kind so common in New-Jersey, and which has so much increased the value and productiveness of the light sandy soils of that State, is supposed to owe its value principally to the potash it contains; this substance in some specimens reaching twelve per cent. The two kinds are sometimes found intermixed, both in New-Jersey and in Virginia, and doubtless farther south, where the same formation prevails. The highest authority on the subject of marl, is Mr. Ruffin; and the volume that records his experiments on this and other calcareous manures, is one of the most valuable contributions yet made to our agricultural literature; and should be consulted by all who are intending to use this important auxiliary in improving the soil.

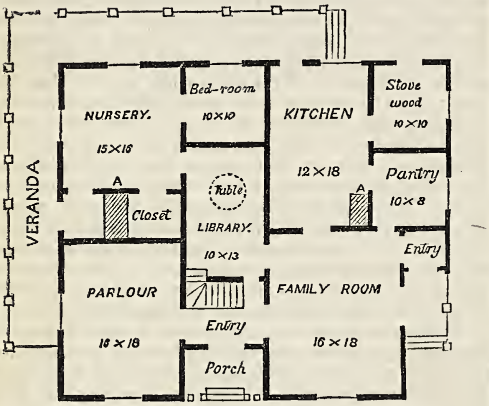
The best method of using marl is to take it from the bed, and apply it at once as a topdressing to the soil. It should be spread as evenly as possible, made fine, and effectually incorporated with the soil by the plow or the harrow, or both. Marls differ in the quantity of clay or sand combined with the calcareous part of the marl; and hence the best marl for light soils, the calcareous part being equal, will be that which contains the most clay; and for clay soils, that which contains the most sand. Marl should not be used in the hill or in drills, as are animal or vegetable manures; since if used in this way it would in most cases be productive of more injury than benefit to the crop, the first one at least. There can be no doubt that a top dressing of this substance would be more effectual, if mixed with a considerable quantity of common manure, but this is rarely done, the marling being first perfomed, and the manure applied in the subsequent years. The quantity necessary or proper, will depend on the quality of the marl itself, or the nature of the soil to which it is applied. In New Jersey the quantity used varies from six to ten tons, of twenty bushels each, per acre. It is applied to grass lands, and as a preparation for crops of all kinds; and in some cases the effect is almost marvellous. Mr. Ruffin found from many experiments that calcareous marl containing from 45 to 50 per cent of lime, succeeded best when about 200 bushels per acre was used. Applied at the rate of five or six hundred bushels per acre it proved injurious for a year or two, or until a dressing of animal manure was given. It is probable, therefore, that our correspondent will find it safe to use from 150 to 200 bushels per acre, spread over the surface and thoroughly incorporated. The presence of such immense quantities of marl immediately beneath the light sands of so large a part of our country, where it is so much needed, is a matter important to the planter, and should not be allowed to pass without being improved for the benefit of his crops.

Inquiry about Wool.—We would refer our correspondent R. M. to the remarks of Mr. Lawrence and Mr. Jarvis, in this number. He will there see that the best wool does not come from poor, starved sheep, as some have supposed. It seems necessary that sheep should be well kept to give strength and elasticity to the wool; though it is not necessary that they should be actually *fat*.



DESIGN FOR A FARM HOUSE AND OUT-BUILDINGS—(Fig. 34.)

BY JOHN J. THOMAS, MACEDON, N. Y.

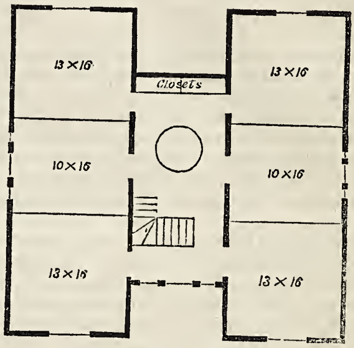


Ground Plan—(Fig. 35)—Scale, about 20 feet to an inch.

Figures 34, 35, 36, represent the farm house—fig. 34 the elevation, partaking of the Italian style—fig. 35, the ground plan, and fig. 36, plan of the second floor. A form nearly square is given to the building, for the sake of economy, requiring far less external covering for the space enclosed; at the same time the outline is somewhat broken, to prevent heaviness and monotony of expression. About half is surrounded with a veranda, under which lathing and plastering may take the place of clapboards, and thus save expense. The whole building may be considered as composed of two parts or wings, extending from front to back, the ridge of their roofs also in the same direction, connected by a center building with the roof at right angles to the two former. The two wings are chiefly occupied as parlor and family room in front, and kitchen and nursery back; and the center part as a library, (for books, minerals, maps, astronomical diagrams, &c.,) lighted by a sky-light in the roof, through a circular opening, surrounded by a railing, in the second floor. This opening will admit of thorough ventilation of the adjacent rooms below, if desired, or it may be closed by a sash of glass, the light softened by a translucent varnish. The kitchen is lighted with one very broad window. A. A. are chimneys, and admit of open fire-places for the parlor, nursery, kitchen and family room. If a hot air furnace is used, by placing it under the center of the library, the heated air may be easily conducted to all the rooms above. The nursery entry opens on the large veranda, enabling children to take fresh air in all weathers. A back entrance to the parlor may be easily made from the same entry if wished. The bed-room adjoining the nursery, is covered with a lower roof, separate from the rest of the roof, and corresponds with the roof of the porch.

The eaves are 5 feet above the second floor; and 4 feet additional rise in the roof gives ample height for the upper rooms, which may be six in number, and allow sufficient space for closets.

The dairy should occupy the coolest part of the cellar, and be entirely separated from other parts by walls. The best and cheapest material for the floor, is a coating of two inches of water lime mortar.



Second Floor—(Fig. 36.)

The size of this house will appear too large to many, but it is not larger than the houses of a large portion of our farmers, after piecing and patching; costs much less, and appears far better. It is much easier to pass from one room to another on the same level, than to pass a flight of stairs; hence the aim has been to have as many of those in common use on the same floor. This also contributes to economy in erection—as calculation will readily show. A one story house, 10 feet high and 40 feet square, will enclose 1600 feet of floor; a two story house, 28½ feet square and 20 feet high, will also enclose 1600 feet; but the latter will require 650 feet more of siding, which will cost more, with painting, than the addition in shingling the former.

A careful and liberal estimate, made from full bills of cost of several houses actually erected by the writer, places the cost of this building, if made plain and of wood, at about $1,400, at the average price of materials, teaming, labor, &c., in central and western New-York. This cheapness is owing principally to the cottage form, compact arrangement, and the diminution of siding and paint under the veranda.

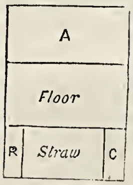
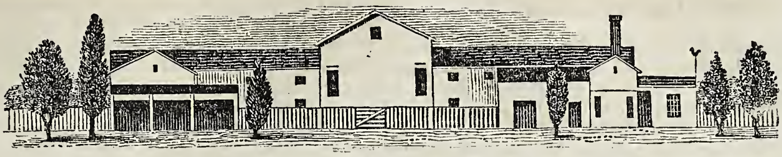
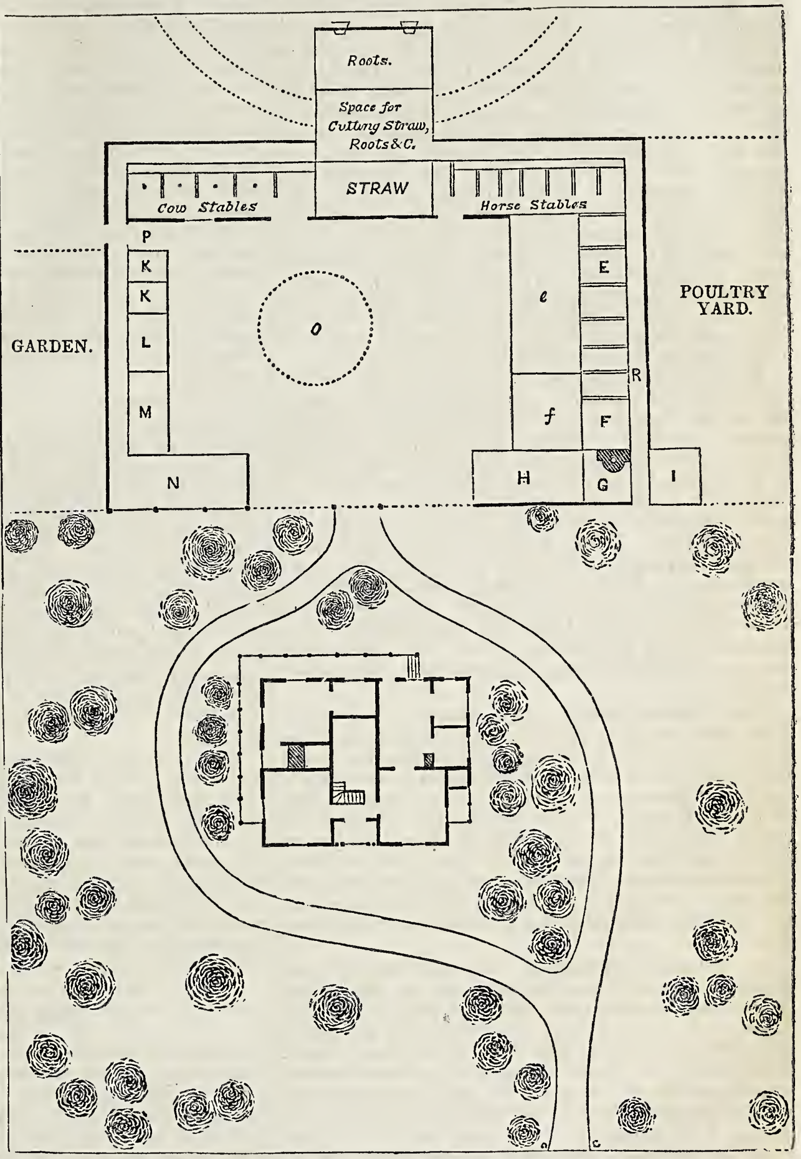


Fig. 39.

Figure 37, is an elevation of the farmery, and fig. 38 is a plan of the farmery, house, and adjacent grounds. The farm buildings form nearly a hollow square, the barn in the center of the further range. In fig. 37, the barn cellar only is shown, being on a level with the stables on each side. The further part for roots, and is filled through two windows with hopper-like troughs, into which the cart is dumped. The nearer part is for straw, to be used for cutting and for littering. From the intermediate space, passages 4 feet wide run in front of the stables on either side, for feeding. Fig. 39, shows the upper floor of the barn; A. unthreshed grain; R. corn crib; C. granary, the bin for oats with an opening below for feeding horses; this opening closed by a sliding board. A door opens from each of the last, to facilitate loading



Elevation of the Farmery—(Fig. 37.)



Plan of Farmery, House and Grounds—(Fig. 38)—Scale about 40 feet to 1 inch.

of wagons from them in the yard below; the bay for straw extends upwards as high as the top of the granary, over which a floor is placed for holding unthreshed grain above. The dotted lines show the wagon way for entering and passing from the barn floor. This way should be wide enough on one side to place the horse power of a threshing machine. A band may extend from this horse power through a hole in the floor, and drive the straw-cutter, root-slicer, &c., below. The hay for horses and cows, is kept in the loft over the stables, from which it is conveniently thrown down into the passage in front of the animals. E. shed for sheep, with racks at right angles to the passage R., from which they are filled with hay thrown down from above; *e*, sheep yard; F. piggery; *f*, pig yard; G. room for boiling roots; I. poultry house; P. passage from manure yard *o*. to back part of farm. K. K. calf house; L. work shop; M. house for plows, harrows, horse rakes, rollers, &c.; N. wagon shed. H. house for keeping store wood during seasoning, wood seasoned two or three years being much better than for a shorter period; and a rough boarded outbuilding, being also cheaper than a well finished painted one in contact with the house. The manure yard *o*. should be about two feet below the surrounding buildings, to which the cleanings of the stables are to be taken daily in a large boxed wheel-barrow, and straw and marsh muck supplied as needed. The yard should be well supplied with water, as convenience may dictate. Ventilators, made of square board tubes, should be placed over the stables and run up through the roof.

This plan may be changed without altering the general arrangement, so as to contain more or less grain, more or less hay, stable room, &c., according to circumstances. The hollow square affords shelter to the yard from wind, an important consideration for our climate. The exten and expense of the buildings, are not greater than are often seen, when convenience of arrangement is entirely set aside; and the labor of preparing food and feeding animals, double what it should be. The wings, sheds, poultry yard, garden, &c. may be reversed, according to aspect and exposure to winds.

Louisiana State Fair.—We acknowledge the reception of a copy of the address delivered before the Agriculturists and Mechanics' Association of Louisiana, on the 8th of January last, by the Hon. T. H. McCaleb, together with a full report of the doings of the Association on that occasion. We should be pleased to give a more lengthened notice of all these matters at some more favorable opportunity. We are glad to see the spirit of improvement which seems to be awakening in that section of country. The ladies, in particular, we rejoice to see, are engaged in the work with animated zeal, and whatever they undertake in earnest, *must* go.

HORSES FOR THE ROAD.

Messrs. Gaylord & Tucker—But little is said in any of our agricultural journals, and less done by the farmers of New-England, and I believe of many other States, to improve the breed of horses; less than has been done to improve any other of our domestic animals.

The horse, standing as he does at the head of all our domestic animals, should not thus be neglected. It is for the interest of the farmer, if he breed horses, to breed those and those only that will readily sell at prices that will fully remunerate him for the breeding. It costs no more to raise a horse that at four years old readily sells at one to two hundred dollars, than one that it is hard to get rid of at forty dollars. Experience and observation have convinced *me* that this can be done by the use and use only of *thorough* bred stallions with the best of our country mares and grade mares. The thorough bred horse is possessed of sufficient bone, and that of flinty hardness, muscle of more firmness than that of any other horse—his gait more elastic, with wind and bottom to excel any other breed of horses. Stallions possessing these qualities, rising 15½ hands, with good country or grade mares, ever have and ever will produce a race of horses well calculated for the coach, road or plow. They walk faster, trot faster, and will endure hard labor better than any horse destitute of this strain of blood.

Messenger, by *Mambrino,* was imported into Pennsylvania about the year 1795. His location was favorable for the use of country mares; his descendants were numerous, and have ever been celebrated as the best of horses. *Mambrino,* a son of imported *Messenger,* the sire of the celebrated trotting horse *Abdalla,* has added to the fame of the "*Messenger breed*" of horses, so called. Imported *Messenger* was the sire of Miller's *Damsel,* the dam of *Eclipse. Duroc,* the sire of Eclipse, left many valuable and highly prized horses out of country and grade mares. *Bajazet, Bucephalus* and *Obscurity,* all thorough bred horses, were brought from Virginia to Hartford, from 1790 to 1794; they were used to country mares only, and at moderate prices. Their descendants were as celebrated here, as Messenger's were where known.

King William, Matchem, Guido, Benjamin, and two or three more thorough bred horses, were imported from England into Hartford, about the year 1798. Several of these horses were kept in Hartford two or three years, and stood for mares at five guineas the season. King William left many very fine and valuable horses in this county. By him, out of a Bajazet mare, I had a colt which made the best gelding ever bred in the county. These horses were finally taken to Vermont and New-Hampshire, and to the use of them, I believe is to be attributed the excellence of the Vermont and New-Hampshire horses.

Col. Talmadge of Litchfield, had a thorough bred horse *Highlander,* which was of immense value to that county. *Roman* was imported by S. Williams, Esq. of Northborough, Mass.; by him I had two fillies out of a Vermont mare, which at 4 years old, were worth three hundred dollars each. A pair of mares by him, sold in Massachusetts, when six years old, for one thousand dollars; and I knew many others by him nearly as valuable. *Sir Harry,* a thorough-bred, was kept in this vicinity, about the year 1830. A gelding by him out of a country mare, was sold at 4 years old for two hundred dollars, and a mare at 10 years old for one hundred and twenty-five dollars; and the same country mare produced four other colts, by horses of *domestic manufactured* pedigrees, which were sold at forty to seventy dollars each, at four to six years old.

A friend of mine had a Naragansett mare, which produced a foal by *Moses,* a thorough bred horse, that proved to be worth double to two other foals she had from other horses. Mr. Samuel Wolcott of this town, well known as the most judicious and successful breeder of cattle we ever had in Connecticut, also bred horses. He bred principally by thorough-bred stallions to his grade mares; and now many well recollect the valuable horses he bred, and particularly a carriage horse and a saddle horse he left on his farm at his decease in 1813.

One of Gen. Eaton's *Barbs,* stood two or three years in this vicinity. It cannot be said we received any benefit by that cross. *Winter Arabian,* was for a time kept in Kentucky, and then in Virginia. In 1832, I had him—he never produced a valuable foal either from blood or country mares.

Bellfounder, imported by Mr. Boott of Boston, stood several years at the farm of Mr. Jaques, was a Norfolk trotter, a descendant on the side of his sire of the *Fireaways.* At five years old he trotted two miles in six minutes, and was 15 hands high. Of his get, I have never seen or heard of any of extraordinary speed or bottom, or in any way particularly valuable for stallions. A Cleaveland bay, imported and kept near Baltimore, was the sire of some fine and valuable horses out of blood mares. At the farm of the Hon. Charles Carroll at Carrolton, in 1826, I saw two very superior young stallions produced by this union; and had they been geldings, would have made splendid coach horses. Had I thorough-bred mares, more than I wished to propagate race nags from, I should put them to a Cleaveland bay stallion. A stallion and mare of this breed were imported into Massachusetts by Admiral Coffin. This horse was inferior to the one imported into Baltimore, and I never could learn he was the sire of any very valuable horses from country mares. Had I Canadian mares, I think by the use of a thorough bred stallion, I could breed from them at a profit.
Henry Watson.

East Windsor, Ct., Feb. 1844.

Note.—Mr. Watson remarks that he has never seen or heard of any horses of Bellfounder's get, "of extraordinary speed or bottom." We have seen several which were certainly remarkable in this respect. We distinctly recollect a roan colt (the owner's name is forgotten,) which attracted much attention at one of the Brighton (Mass.) cattle shows. Dr. Nourse of Hallowell, Me., had a horse and mare got by Bellfounder, of extraordinary speed. The man who broke this mare, (a great horseman,) said that her *natural* gait was a mile in three minutes or less, and that she would do this under a tight rein, while he was breaking her! The Messrs. Allen of Buffalo, a few years ago owned a horse of Bellfounder's get, which has since obtained considerable celebrity in Ohio. We dare say Col. Jaques can tell us of others equally celebrated.

Admiral Coffin presented two Cleaveland bay horses and a mare, to the Mass. Ag. Society. The first horse sent, (*Sir Isaac,*) was not a handsome animal, and we think did not turn out very well. The next one came over with the two race horses, which were also presented by the same gentleman. This last Cleaveland bay was a noble horse in appearance. We should be glad if Col. Jaques or some other gentleman in Massachusetts, would inform us in regard to the progeny of these horses—whether they were considered an improvement in any way, &c.—Eds.

HAY MAKING.

Messrs. Editors—I have seen it recommended from time to time in your excellent paper, to *salt* hay, as a remedy for imperfect curing. Having tried this method occasionally, and observed its effects with some care, I am led to doubt its utility. My objections are two, viz that it is not so nutritious as when well cured; and that it causes cattle to *scour.* My desire in stating these objections, is to call forth further information on the subject. The temptation is very great, when hay is nearly dried, to flatter ourselves that it will keep, especially if well salted, and in it goes. The same state of things occurs the next day perhaps, and temptation once yielded to, in this as in other things, soon becomes a habit; and in unfavorable seasons particularly, our barns are filled with hay, which on feeding out, salt notwithstanding, proves musty and unpalatable. As we open these musty mows, and see our cattle poke over and snuff at the hay, we promise ourselves perhaps, not to do so again; but the next season the same thing is enacted, and so on through a man's life.

This town is somewhat celebrated in this region for good hay and fine cattle. Our *best* farmers can hardly be tempted to put a lock of hay into their barns until perfectly cured. There are those among us however, who are not so particular. A peep into the yards of the two classes, would, I should think, satisfy any one, whether *perfect* or *imperfect* curing is best. *Salt* is good, in a trough or manger where cattle can help themselves; but it will not, as I think, make badly cured hay *good,* and well cured hay does not need it.

Whilst on the subject of hay, I will say a few words more. The practice of leaving uncured hay until near night before it is cocked, is a bad one. It should invariably be put up by 4 o'clock, at which time the dew begins to collect. When thus put up, it cures rapidly in the cock, requires less handling afterwards, and loses less in weight, than if put up when cold and wet with dew.

The horse rake has recently been introduced among us with good results, enabling one man with a horse to do the work of five or six with small rakes. We have also a broad hand rake for cleaning after cocks and raking after cart, with which one man can do as much as two with small rakes, and with less fatigue. With these and other improvements, hay is now got in, *well cured,* at $1,75 to $2,25 per ton. A few years ago the cost was estimated at $3 to $4 per ton.

As this is my first, and may be my last communication to the Cultivator, I must say a word about Devon cattle. We have made something of an experiment with Durhams; and the prevailing opinion is, that taking into consideration milking, fattening and working, our old stock is preferable. This old, or as we call it, *native* stock, came undoubtedly originally from Devonshire and the adjoining counties of Somersetshire and Gloucestershire, where the Devon breed prevails. Great numbers of our ancestors came from those counties. The breed has been greatly improved in England within thirty or forty years; while with us, no care whatever has been taken, either to keep it distinct or to improve it. It is surprising, however, after so many generations, how plainly the distinctive marks of the Devon can yet be traced, notwithstanding so many crosses and so much neglect. We want now a new infusion of the original blood. Many of your readers here, would be gratified with particulars of the present state of the breed, and also where they can be obtained in this country. Richard Cowles.

Farmington, Conn. Jan. 9, 1844.

MORE ABOUT TURKIES.

Messrs. Gaylord & Tucker—I intended to have written out, somewhat in detail, my views upon the subject of raising turkies, but have delayed until I am inclined to omit it altogether. Something however seems to be required from me, in justice to a correspondent in your December number; and I will therefore, even at this late day, proceed to spread before your readers, a few thoughts which may be of service to some who would like to cultivate a better acquaintance with this noble bird. Many persons who have practiced raising turkies for years, still think that success depends very much in "luck." Let me say then in the outset, that in my opinion, this is a great mistake. He who trusts to luck in this business, will be quite sure to meet with disappointment. Turkies, when left to themselves, to seek their place for a nest, hatch out their brood, and wander about with their young, are not very likely to be "lucky." Chance may lead some "old fox," or other lover of good things, to pass by the nest where the old turkey sits, and her escape in such a case, would be luck indeed.

My first experiments with the turkey were unsuccessful; and most of my good neighbors, when they heard of my failures, were prompt to exclaim, "we told you so." But the loss of all my eggs the first year, and little better the next, did not convince me that turkies could not be raised. I have this year raised eighty-six, and feel quite sure, I could raise two hundred another with little difficulty. For two or three years past, I have succeeded so well, I feel some confidence in saying that others will run no great risk in adopting my plan.

He who would succeed well in this business, must, during the winter, feed his flock well, and *familiarly.* By the middle of March or first of April, they will probably commence laying. If they are quite tame, as they can be made to be, they will be likely, if left to run at large, to lay about the house or barn; but the safest way is to drive them into some shed every morning, and let them out about noon. They will then lay in the corners of the room; and when they come to set, they will be convenient to be taken care of, and by closing the door at night, they are secure from harm. After some three or four, or more, commence setting, others may be shut in a different place. I usually take the eggs from the nest as they are laid. A turkey will cover from seventeen to twenty-one eggs. I last season, set three turkies with twenty-one eggs each, and they hatched sixty. One of them hatched every egg. These were in one room. I never feed the turkey on the nest, and I am decidedly opposed to the practice of so feeding them. It is well enough to place feed where they will find it; but if the turkies are hardy and in good condition, this is not very necessary. Most turkies are good setters, and such will commence hatching in twenty-eight days. They should be left upon the nest until the young are dry and able to stand. The hen may then be put into a coop in a warm, dry place, and the chicks permitted to run out, *but should not be fed for twenty-four hours,* or even a longer period. I am very particular on this point, as I think many young turkies are destroyed by over feeding soon after they are hatched. After the first day, a little curd or boiled egg may be scattered upon a board or flat stone. If the weather is cold or wet, it is well to season their food with pepper. I have experimented with giving young turkies feed *very highly peppered,* and have never seen any bad effects, and have frequently noticed cases where I was quite sure the use of it had produced much good. Very little if any Indian meal, should be given. If used, it should be wet up some hours before being fed out. I will not tax your columns with prescriptions for the cure of the different "evils" which young turkies are "heir to." A *sick* chicken is worth nothing; and my experiments with such, have been of the bold kind, upon the "kill or cure" principle; and I have sometimes effected astonishing cures. But it can be of little practical use to your readers, to give a full statement on this head. "An ounce of preventive, is better than a pound of cure." After the first two or three weeks, it is well to let the old turkey out some four or five hours each *pleasant* day, if you have a pasture or other suitable grounds. There is much danger, however, in leaving them out over night, as they are disposed to wander about while the dew is on.

There is a diversity of opinions as to the best variety of the turkey. Some preferring the pure white, others the black; and some there are, if we are to judge by their practice, who prefer every mixture of color, "ring streaked and speckled." I go for the native color. My flock at the commencement of last season, consisted of a turkey cock, the first generation from the wild state; the color and shape exactly agreeing with the wild turkey; and eight hen turkeys of my own raising. The hens are of a dark color, yet not black, with an inclination to white at the end of the wings. A very large share of those raised the last season, were in color and form like the cock, with less of the flesh color on the legs. I would give a more full account of my flock as it appeared in the fall, before I made inroads upon it; and a more full description of the color and brilliant plumage of many turkies now on hand, but fear your readers would think me drawing from fancy.

My opinions and recommendations thus briefly stated, are based upon experiments of my own, and differ in some particulars from writers upon the subject. "Boswell," for example, advises "the putting two or three eggs of the common fowl, under each turkey, that the common chicks may set an example for the turkey chickens, and which determines them to eat sooner than they otherwise do." Now this is all moonshine. Young turkies are more in danger of eating too much than too little; and I would again caution all who would hope for success, not to feed high the first week or two. Feed often, but sparingly. If during the first four or five weeks any of them should droop, and decline eating in the morning, give them pepper, by taking a small quantity of their regular food and about an equal quantity of pepper, mix it, and give as much as a healthy one of the same size would eat.

In my opinion, one healthy male turkey is sufficient for twelve or fifteen hen turkies.

I intend, when the reform bill on postage shall have become the law of the land, to write over my real name, but must decline doing so for the present. I have now on hand some six or eight letters asking my opinion upon this man's Poland fowls, and that man's Dorkings, &c.; and had they come to hand *post paid,* I should have been happy to answer them. I should be extremely happy to hear from your Virginia correspondent; and my remarks above are intended for a very different "variety" of mankind, than I believe him to be. K. L.

Hartford, Ct., Feb. 28, 1844.

SUGGESTIONS TO COTTON PLANTERS.

Willis Gaylord—Sir—I quote here your queries propounded to me in your very friendly letter, also the remarks following those questions, and will endeavor to give you what I think are the facts in the case, leaving you to use either, to satisfy yourself or others, as you may wish. You say, "is it an error in me to suppose that the cotton growing districts of the United States, mistake their true interests, by devoting their attention to that article so exclusively? Would not a more mixed husbandry, one that should secure to the planter from his own soil, his required supplies of beef, mutton, bacon and bread, be preferable to risking all on one crop? I take it for granted, there is no good reason in the nature of things why this might not be; I suppose experience has demonstrated that there is no difficulty whatever in the growing of cattle, sheep, (and fine wooled ones too,) and pigs, in quantities sufficient for the wants of the planter; and that the system of extensive purchases of articles of food now so common, is more the result of habit than of necessity."

It gives me no inconsiderable pleasure to give you an answer to all this matter, by showing you what is now done by a great many farmers, and some planters in this part of the cotton region, which may tend to stimulate others to equal exertions, and will show many who live north of us, that we are not dependant for supplies to our northern friends, and thereby induce them to feel more like we were brethren and equals, than that we we were dependents. The capabilities of our soil to produce, our climate to perfect, and the energy of the sons of a southern clime to effect reasonable objects when necessary, are misunderstood by many in even this country, for that author of the effect of climate, is a southerner, and it is reasonable to suppose that there are far more in a northern country.

All experience has proved in every country where yet tried, that mixed husbandry is preferable to a devotion to any one crop, and to a certain extent is true in the cotton region; we must have no other crop to interfere in the gathering, that requiring all the time and attention of the farmer. That there is too much reliance on the cotton plant, the practice of our farmers will be a sufficient proof, and that much other business might be introduced that would not conflict wtth the interest of the cotton grower, we all now believe.

We can assuredly make an abundance of beef, mutton, bacon, bread and wool to feed and clothe us well; we can also rear our own horses and mules; and I make no question but what we could add sugar and molasses, with silks for our fair dames, would they but take hold in a proper spirit. I make not these assertions without absolute proof, and enough to satisfy any jury of 12 men in the United States. My five nearest neighbors in this county, having near on to 300 persons in the aggregate, have made for the last 3 or 4 years more meat, corn and beef than was necessary; I might add mutton also, although the quantity consumed is small. I can better say of myself than of others, I must therefore rely more on this, trusting a bare exposition of facts will be construed fairly.

I can make an average crop for any consecutive 10 years, (and am even willing that the last 4 be counted in, as I have been here myself only 4 years since 1836,) 6 bales of cotton weighing 400 lbs., 200 bushels of corn, 500 lbs. of pork, raise 5 lambs, 3 calves, per hand that works in the field, with 1 colt to 4 hands, and an abundance of oats, rye, millet and fodder, potatoes and garden vegetables, to feed one horse to each hand, all cattle in the winter daily, and whites and blacks. I have been much engaged in putting the farm in ship shape order, and have lost much time from the mere farm work, but I can make a better showing than this, and make no question that I will ere 10 years pass, make, besides my crop of cotton, (6 bales,) pork and hay for sale. I can even now sell off yearly some half dozen beeves, a few milch cows, 30 or 40 mutton, and have sold on an average, $500 worth for 3 years, without at all interfering with what I say can be made, or at all injuring in number or quality the stock that I found here on my return in 1839. I am not yet fixed, for you well know how long it requires to get a farm properly arranged; owing to this, and to a never ending range for hogs, I am harrassed yearly for meat; the pigs I had castrated and spayed in 1840, Jan. and April, for killing Dec. 1842, numbered 93, and although I had an abundance of corn, I did not kill *of them* over 20 head; the others I have never seen. I must raise my meat in an enclosure.

Now, sir, if one man can do this, others can, and if cotton will not rise over 8 cts., we will all do it, and do more, for we can and will make our own clothing.

The great difficulty in this country has been, cotton has been to all appearances, a remunerating crop, and in many instances only in appearance; for when it rises, and the planter sells a per hand crop of $300, every thing is high in proportion, and by purchasing every thing, he is really but little better off at the end of the year than at the beginning. My own opinion is, and I have made every reasonable effort to give it publicity, that it is a duty every man owes his family, his country, to make every thing necessary which will not withdraw his force from their trade, and after which, as much cotton as he can—thus making sure of bread, meat and work animals, so if he makes only 4 or 5 bales per hand, those few bales will be nearly clear.

I have a portion of a mutton now in my smoke house that is very passable meat, though not fat; killed off a rye patch, which was sown on the corn ground, no plow being used at all. This season being more unfavorable for sheep than any I have ever seen, continued rains, not a head of sheep has been housed an hour; and worse on my sheep than on natives, being part bred Bakewell. I killed some two of my choice veals this fall, no extra care or keep, and a beef near 4 years old, a spayed heifer raised entirely in the woods, with a run in the field after gathering corn; she weighed 426 lbs. and gave me 46 lbs. of tallow; she was to appearance, no fatter than when turned in, and was only turned in to give flavor to her meat; I have got over 30 lbs. of tallow from a beef 6 to 7 years old, killed out of the woods. I therefore say there is no difficulty in raising either beef or mutton. Pork can be bought, made in this county, at 3 cts.—enough to prove that we can raise pork. My own opinion is, that we can raise pork cheaper than those countries where pork is the staple commodity—and here are my reasons—a farmer can cultivate 10 acres of corn land per hand, besides enough in cotton to ensure him 4 bales, and a large crop of oats and sweet potatoes, which with the aid of a peach orchard, planting his corn land with peas and pumpkins, he can rear readily double the quantity of hogs he will require; he then can take time to handle these 4 bales so as to nett him in price, over 5 bales, and give him the surplus quantity of pork a clear gain. Thus in reality making by his staple production a fair crop, which as a matter of course, gives him the pork free of cost. Should he require a crop of 6 bales, let him plant for 5 and handle well, to make in price and saving of expense, the 6th bale.

A neighbor of mine has killed hogs averaging 300 lbs., this winter; they were raised entirely in the woods, as our stock hogs are raised, then turned into the pea field, and afterwards corn fed for a few weeks; clearly proving the good effect of crosses on his stock; 4 years ago his stock did not average 200 lbs., and raised as now, but the range far better; he has killed 46 that will over-go 275 lbs., some going to 320 lbs., 18 months to 2 years old. He has purchased of me boars at different times. The exact weights I will ascertain and publish in the S. W. Farmer.

We do not raise large cattle or hogs, or make large yields of corn like our northern brethren; but have a fair range, and with land not worth over $5 to $15 per acre, we can afford to cultivate more.

I have a friend, who in South Carolina even, makes what is considered a fair crop there, and though he works something over 100 hands, yet makes corn to sell with his own meat. In an address delivered in South Carolina, by the Hon. George McDuffie, he states he makes a fair crop, raises his own corn and meat, and even his work horses. I think this statement is made in his address; and I think it entirely feasible, for every county in a cotton growing State to do the same, and supply its county seat with bread and meat.

Were I to devote myself entirely to a cotton farm, not attend to improving stock and buildings, I feel perfectly certain that I could sell as much meat as I would use, raise enough horses to fully supply the wear and tear, and yet sell my 6 bales of cotton. There are many even here who would doubt it, but sir, I am a practical farmer, make farming my only business, and I feel that injustice is done, when called theoretical, because I have had the *chance* of receiving a first rate education, and read more or less every day of my life. I only ask for the same measure to be meted unto me, as is done to other men who reside on their farms and superintend themselves all the minutiæ of farming. Yours, &c.

M. W. Philips.

Log Hall, Miss., Dec. 31, 1844.

SWAMP WILLOW—(*Salix discolor.*)

Messrs. Gaylord & Tucker—In a postscript to my communication published in the Cultivator, vol. 10, p. 98, I promised you some information relative to the cultivation of the swamp willow for economical purposes, attention having been directed thereto by Mr. Wm. Partridge of New-York. The promise had slipped from my memory, until recently turning over the leaves of the last volume of the Cultivator, I was reminded of my promise, and now proceed to redeem it.

An important and extensive employment has grown out of the use and cultivation of the willow. Great quantities are imported, while we see it growing wild in swamps and along water courses, from one end of the United States to the other, and almost untouched, although if collected in its native state, or cultivated as in Europe and some parts of this country, it would afford a profitable occupation to the industrious, at seasons of the year when other work would not interfere.

Hoops for casks are made of willow in Europe, as we see in the wine casks of France and Portugal. Irish potatoes are imported in hampers of the same material, and champagne in willow baskets. Bottles and demijohns come to us covered with willow, and willow is cut and dried to be converted into charcoal, which makes a better article than any other wood for the manufacture of gunpowder.

But of all the uses to which willow is applied, both here and in Europe, that of making baskets of all kinds, and many articles of wooden ware, is the most extensive. It gives employment to many, and might to many more, if our own resources were husbanded, and our own raw material more generally sought, cultivated and used.

Willow and willow baskets are both imported from Holland and France. Most of the baskets manufactured in this country, are made from the imported willow, but some of American growth is also converted into useful articles, as will hereafter be shown. The imported willow is of the osier kind, long, slender and flexible. It comes in bundles four feet in circumference or sixteen inches in diameter, and of three lengths. It is sold in assorted parcels, and the purchaser is required to take a portion of each length. The smallest size is from three to four feet long; the middle size five to six, and the third size seven feet or over. The present price of such willow, free of bark and in good condition, in the city of New-York, is 8 cents per pound. The writer has known it to sell at $1 to $1,25 by the bundle.

Immense quantities of willow baskets are imported from France, but they are all of the smaller and finer kinds of wooden ware made of split willow. Our artizans cannot compete with the French in the manufacture of these kinds of willow work, on account of the very low wages in France, or other cause. There, much of the fine and fancy work is executed by females, while here, willow baskets are wholly made by males, who require higher wages than males or females in European countries. Hence it is that France and Germany have possession of the American market in the supply and sale of fine and fancy willow-ware, which can be manufactured here by American artists, but they are undersold by foreign workmen. There is perhaps another reason for this state of things. Some years ago, a French merchant now retired from business, informed the writer that he could not conceive how the French willow baskets could be imported and sold so cheap, unless the government was defrauded in the duties.

But on the other hand, our countrymen have exclusive possession of the manufacture of the large, coarse and bulky articles made of willow, which cannot be imported on account of the space they occupy, and the amount of freight such space would command. The greater part of the willow they use however, is that imported from Holland and France. The trade of making willow-ware is an extensive one, and is principally carried on in our large cities; though of late, it is extending to other parts of the country where the native raw material is abundant and easily procured, or where this and the foreign varieties are cultivated.

Here then we have a trade, an occupation for many of our countrymen, which consumes a great amount of raw material, much of which might be supplied from indigenous growth, or from cultivated plants of native and foreign varieties of willow. There is much to encourage this undertaking, were it more generally known how easily it may be accomplished. The following information was obtained from a person who has a plantation of willows on Staten Island.

Mr. John Reed of Southfield in Richmond county and State of New-York, is an Englishman by birth and has followed the business of cultivating the native and foreign willows for thirty years or more in this country. The farm he cultivates, contained a useless bog of an acre or more, which by ditching and draining, he has converted into a willow plantation, from which he reaps an annual harvest much greater than from an equal amount of land on the best part of his farm. He has the native willow at the head of this article, the Pennsylvania, the Welch, the Dutch and other varieties which he imported from England. He has another plantation of willows in the adjoining township of Westfield.

Mr. Reed has at different periods imported fifteen varieties of willow of the osier kind from England, but the best kinds raised there, degenerate here from the nature of the climate. They start well in the spring, but stop growing in the heat of summer, and limb out rough. Two varieties however, grow here as well if not better than in England. One of these is the Welch, the other known there as the Dutch, with a white bark. These are important facts for those who may hereafter undertake to cultivate willow plants, derived from the experience of thirty years in lat. 40 deg. 30m. north.

The American swamp or wild willow, grows all over the United States, of which there are several varieties. The Dutch immigrants who settle in the interior, cut and use it in the manufacture of articles of utility. Some is cut in the neighborhood of Albany, and sent in bundles to the New-York market. The native willow is best for coarse, strong and tight work, but is not adapted for splitting or twisting, qualities which belong in an eminent degree, to the cultivated Welsh willow.

There is a variety of willow cultivated along the Schuylkill and Delaware rivers in Pennsylvania, which is reputed to be the best in this country for all kinds of work. It is extensively cultivated by the Dutch, who are said to have imported it into that State in the time of William Penn, the original founder of the colony of Pennsylvania. It is known there by the name of the *Green willow*. Mr. Reed also cultivates the Pennsylvania willow, which he introduced into this State in 1810. Several besides himself, raise this and other varieties of the willow on Staten Island. The green willow grows large, and when properly prepared and dried, is converted into charcoal by Dupont to make gunpowder.

To those who are desirous of undertaking the cultivation of the willow, Mr. Reed can supply cuttings of the best varieties, as he has heretofore complied with orders from Boston, Kentucky, and the interior parts of the State of New-York. March and April are the months to procure them. They should be set out in rich land along streams occasionally overflowed, or in swamps, which if too wet, should be ditched and drained.

The yearly crop of willow twigs is cut in March. The cuttings are tied into bundles, and the butt ends placed in the water of the swamps where they grew. They are left there a shorter or longer time, according to the season, and until the swelling of the buds indicates the flow of sap, which loosens the bark, when they are removed and denuded of the bark, which then comes off very easily.

Mr. Wm. Leveridge, a miller on the Great Kills in Southfield, also has a plantation of Welsh and American willows. The former grows long, slender and smooth, and is well adapted for work which requires it to be split or twisted. Enough for the present. Perhaps more hereafter, from yours, RICHMOND.

IMPORTATION OF MERINO SHEEP.

MESSRS. GAYLORD & TUCKER—Some two or three months since, I saw an article in one of our papers, purporting, I believe, to be taken from the Albany Cultivator,* giving a very erroneous account of the importation of Merinoes into this country; and what was somewhat more surprising, the writer made a parade of communicating the information for the benefit of posterity.

The deep interest I took in furnishing my country with this invaluable animal, the direct concern I had in the shipments, and my official station, afforded me the means beyond that of any other person, of becoming accurately acquainted with the number shipped, and the ports to which shipped; which information I have embodied in my letter of the 31st January last, to L. D. Gregory, Esq. which was published in the Bellows Falls Gazette of the 24th ult.; and I take the liberty to send you a paper with the request of a republication in the Albany Cultivator. This request I have no doubt you will comply with, because you must be desirous that the agricultural community should have correct information upon all subjects affecting their interests, and because you must be averse to give currency to statements, professing to be intended for posterity, that are not marked by truth and fairness, which all, except gentlemen of poetical imaginations, must deem essentials, when information is intended to be transmitted to future generations.

I am the more desirous of the republication, as I have understood that much imposition has been practiced in regard to Merino sheep, in the western part of your State.

Respectfully yours, WM. JARVIS.

Weathersfield, Vt., March 1, 1844.

WEATHERSFIELD, VT., JAN. 31, 1844.

Dear Sir—In reply to your letter of the 15th inst., requesting me to give you an account of the Merino sheep of Spain, and of their introduction into this country, &c. &c., I shall with pleasure do it so far as my memory serves me, and I believe that will be found to be tolerably correct, as I long since gave much attention to the subject, from a conviction that the wool growing business in the United States would prove a source of national prosperity. In Spain the fine wooled sheep are divided into two classes; the Trashumantes or traveling sheep, and the Estantes or stationary sheep. The wool of the Trashumantes is very much superior to that of the Estantes, owing undoubtedly, to the superior care and attention which is given to them. The Trashumantes are owned in flocks from 5,000 to 30,000; the larger flocks are placed under the superintendence of a mayoral, who has the whole control over the flock, and annually accounts with the owner for the nett income. Two shepherds, four dogs, and a pack-horse or mule are employed for every thousand sheep. The traveling sheep are divided into three classes, which take their names from the provinces where they are principally kept, viz: the Leonesa, which are by far the most numerous, and are esteemed the finest sheep in Spain; the Segovian, which are considered the next best, and the Sorian, which are deemed a little inferior to the latter. I never saw any of the Segovian or Sorian sheep, and therefore speak of them from their general character, derived from Spaniards the best informed on the subject. The Leonesa are pastured in the summer on the mountainous and hilly country of Leon and the two Castiles, and in the fall are driven into the plains of Spanish Estramadura to be pastured through the winter.

Many of their flocks are driven two hundred miles from the summer to the winter pasture and *vice versa*. Some explanation will be necessary for the better understanding of the cause of this management. The plains of Spanish Estramadura are subjected to an almost invariable drouth from the latter part of April to the autumnal equinox; but the rains commence about the 21st of September, and continue to fall every two or three days in very heavy showers till the latter part of March, when they gradually fall off till the end of April. In six or seven weeks from the first rain, from an apparently arid waste, those plains are covered with a beautiful coat of verdure and so continue till April, as the thermometer rarely falls below 40 deg. of Fahrenheit at sunrise. Whilst the plains are thus parched up in summer by drouth, in the mountainous and hilly regions, they have occasionally refreshing rains, which there keep their pastures good throughout the summer. Their flocks are usually started in the month of April from the plains of Estramadura to their summer pastures, and in October back again. They are generally sheared in the latter part of May, and the wool is sent to St. Andero and Bilboa, the two nearest seaports to their summer pastures, for sale. The proprietors of the flocks always own lands in the mountains and in the plains, sufficient for both their summer and winter pastures. From the circumstance of their sheep being fed the year round upon green fodder, it was the general opinion in Spain that the merino would not succeed in any other country. But the experiments made in Saxony, in 1765, by the introduction in that year of the Spanish merino, it has been proved beyond all question, that with proper care and management, wool can be grown quite as fine as the Spanish, when fed upon dry fodder four to six months in the year. In fact they have succeeded in all countries where they have been tried, except in England; and their deterioration there, must undoubtedly be owing to the extreme humidity of that climate.

The origin of the fine wooled sheep of Spain appears to be a question of much doubt. It is certain that Columella, a Spanish writer on agriculture in the days of Augustus Cæsar, speaks of fine wooled or covered sheep. It is probable they were carried into that country by the Carthagenians or Romans, as the name *mareno*, implies in Spanish, from or beyond sea. But it is of little consequence to those who want a soft, warm, handsome garment, whether those sheep were natives of Spain, or whether the original stock was imported into it from another country.

I shall now call your attention to the first introduction of them into the United States. Soon after the accession of Mr. Jefferson to the Presidency, Chancellor Livingston was appointed Minister to France, and in 1801 or 1802, he obtained from that government three or four merinos of the Rambouillet flock, which he sent to New-York and put on one of his farms. This flock was obtained by the king of France from the king of Spain, and were undoubtedly pure blooded sheep. A little before Gen. Humphreys left Spain, he was enabled to get two hundred sheep from Spain into Portugal, and they were sent to Figueira, at the mouth of the Mondego, and thence shipped to the United States. From what flock he obtained them, I never could learn, though I inquired a number of times; but as Spanish Estramadura and Leon border on Portugal, from 38 deg. of latitude to the northern boundary of Portugal, and as no other than the Leonesa Trashumantes are found in that part of Spain, there can be but little doubt that they belonged to that race.

---

* In a letter since received from Mr. JARVIS, he says—"I perceive that I was mistaken in attributing to the Albany Cultivator the article to which I alluded, in my letter to Mr. Gregory; and I now cheerfully and promptly offer to you an apology for the error."

I attempted in 1806, also in 1807, to obtain some from the most celebrated flocks, but the laws were so strict against their exportation without royal license, that I failed of success. After the French invasion in 1808, the [illegible] ecame more relaxed, and in 1809, by special favor, [illegible] ned two hundred Escurials. At the second invasion of the French under Joseph Bonaparte, the rapidity of the march of the French troops hurried the Supreme Junta from Madrid, and they retired to Badajos. Being without money, and being afraid of disgusting the Estramadurans, by levying a tax upon them, they were compelled to sell four of the first flocks in Spain, which had been confiscated in consequence of the proprietors joining the French. These were the Paular, previously owned by the Prince of Peace; the Negretti, previously owned by the Conde Del Campo de Alange; the Aqueirres, which had been owned by the Conde of the same name, and the Montarco, owned by the Conde de Montarco, and were such sheep as could not have been got out of Spain, had it not been for the invasion of the French and the distracted state of the country growing out of that invasion. When the Junta sold, it was upon the express condition of their granting licenses to carry them out of the kingdom. Four thousand of the Paular flock were sent to England for the king; and Col. Downie, a Scotch officer in the British service, but who then held the rank of General in the Spanish service, and I, purchased the remainder of the flock, between three and four thousand more; and of this purchase, I took fourteen hundred, and he sent the rest to Scotland with the exception of two or three hundred, which he sold to come to this country. Sir Charles Stewart purchased the Negretti flock and sent them to England, with the exception of about a hundred I got out of his flock after they reached Lisbon.

I purchased about seventeen hundred of the Aiqueirres flock of the Junta, and the remainder was sold and sent to England. The Montarco flock was bought by a Spaniard and a Portuguese, and about two thousand seven hundred were shipped to this country. I shipped to the United States, the fourteen hundred Paulars, one thousand seven hundred Aqueirres, two hundred Escurial one hundred Negrettis, and about two hundred Montarcos. Of this number, about one hundred were sent to Wiscasset and Portland, one thousand one hundred to Boston and Newburyport, one thousand five hundred to New-York, three hundred and fifty to Philadelphia, two hundred and fifty to Baltimore, one hundred to Alexandria, and two hundred to Norfolk and Richmond. Besides those which I shipped to the United States on my own account, there were about three hundred Gaudaloupes purchased by others, and two to three hundred of the Paular flock sold by Gen. Downie, shipped to Boston; and of the Montarco flock, shipped by others, about two thousand five hundred were sent to Boston, Providence, New-York, Philadelphia, Baltimore and Savannah. The Gaudaloupes, Paulars and Montarcos, which were shipped to Boston by others, were for the account of Gorham Parsons, Esq , Gen. Sumner, D. Tichenor and E. H. Derby, Esq. All these sheep were shipped in the latter part of 1809, during 1810 and the early part of 1811, and were the only Leonesa Trashumantes, if we include Gen. Humphreys' and Chancellor Livingston's, (which I have no doubt were of the same stock) that were ever shipped to the United States. Badajos is but little over one hundred miles from Lisbon, and all the sheep purchased there and in that vicinity, were shipped from Lisbon. I was then Consul there, and from my office was accurately acquainted with all the shipments, as certificates of property from me always accompanied them.

I shall now, in compliance with your wishes, give you a description of the sheep of the different flocks sent to this country. The Paulars were undoubtedly one of the handsomest flocks in Spain. They were of middling height, round bodied, well spread, straight on the back, the neck of the bucks rising in a moderate curve from the withers to the setting on of the head, their head handsome, with aquilline curve of the nose, with short, fine glossy hair on the face, and generally hair on the legs, the skin pretty smooth, that is, not rolling up or doubling about the neck and body, as in some other flocks, the crimp in the wool was not so short as in many other flocks, the wool was somewhat longer, but it was close and compact and was soft and silky to the touch, and the surface was not so much covered with gum. This flock was originally owned by the Carthusian friars of Paular, who were the best agriculturists in Spain, and was sold by that order to the Prince of Peace when he came into power. The Negretti flock were the tallest merinos in Spain, but were not handsomely formed, being rather flat sided, roach back and the neck inclining to sink down from the withers; the wool was somewhat shorter than the Paular and more crimped, the skin was more loose and inclined to double, and many of them were wooled on their faces and legs down to their hoofs. All the loose skinned sheep had large dewlaps. The Aqueirres were short legged, round, broad bodied, with loose skins, and were more wooled about their faces and legs than any other flock I ever saw, the wool was more crimped than the Paular, and less than the Negretti, but was thick and soft. This flock formerly belonged to the Moors of Spain, and at their expulsion, was bought by the family of Aquirres. The wool in England was known as the Muros flock, and was highly esteemed. All the bucks of these three flocks had large horns. The Escurials were about as tall as the Paulars, but not quite so round and broad, being in general rather more slight in their make; their wool was crimped, but not quite so thick as the Paular or Negretti, nor were their skins so loose as the Negretti and Aqueirres, nor had they so much wool on the face and legs. The Montarco bore a considerable resemblance to the Escurials. The Escurial flock had formerly belonged to the crown, but when Philip the 2d built the Escurial palace, he gave them to the friars, whom he placed in a convent that was attached to the palace, as a source of revenue. These four flocks were moderately gummed. The Gaudaloupe flock was rather larger in the bone than the two preceding, about the same height, but not quite so handsomely formed, their wool was thick and crimped, their skins loose and doubling, their faces and legs not materially different from the two latter flocks, but in general they were more gummed than either of the other flocks. In point of fineness there was very little difference between these six flocks, and as I have been told by well informed persons, there is very little difference in this respect among the Leonesa Trashumantes in general. The Escurials, the Montarcos and the Gaudaloupes were not in general so heavy horned as the other three flocks, and about one in six of the bucks were without horns, or what is commonly called a polled buck.

I had selected by the Paular shepherds, who came with that flock, three hundred sheep which I shipped to Newburyport. The half of these were Paulars, a fourth Aqueirres, an eighth Escurials and the other eighth Montarcos and Negrettis. These I put on the farm in Weathersfield, Vt., that I bought after my return to the United States, and also drove up about a hundred, the remainder of those I had shipped to Boston. In compliance with the invariable practice in Spain, I bred the respective flocks separately, or what in farmer's language is called in and in; the custom in Spain having existed from time immemorial, of breeding the bucks and ewes of the same cabanna or flock together, or in and in; but in about 1816 or 1817, I mixed the different flocks together, and have so bred my merinos ever since.

About ten years ago I found some twenty or thirty samples of the Paular flock that was sent me from Spain to Lisbon, and by clipping from my sheep about as many samples, just as they came to hand, I was satisfied that my flock had improved; and some ten or a dozen wool growers who compared the two, were of the same opinion. Whether this was owing to mixing the several flocks together, or to a very close attention to the selection of my bucks, I cannot say, but the fact unquestionably is so. I well know, as you say, that many have been latterly running about the country puffing up their sheep as full blood Paulars, which name has doubtless been adopted because it is generally understood that the Paular flock carried the heaviest fleeces, but with the exception of eight or ten pure blood merino ewes which I have sold within three or four years, and about fifty pure blood merino bucks within about five years, I do not know nor do I believe that there is a pure blood merino in the United States, besides those which I own.

The reason for this opinion is, that from 1823 to 1836, the rage for Saxony sheep was so great that few or none of our wool growers would breed from merino bucks, who could get Saxony; and after the large importation of Saxony in 1825 and 1826, the Saxonies or their crosses were within the reach of almost every breeder. From 1838, as the different prices of wool were in no fair proportion to the difference of its quality, the light wool Saxony fleeces got daily more and more out of repute until we are finally getting into the opposite extreme, and are giving up the fine, soft felting wools for the coarser and harsher and heaviest fleeces. This is a great error, because fine wools must always be in demand for our superfine broadcloths and cassimeres, and with a proper selection of bucks and ewes, fleeces averaging three pounds weight, may be as easily grown of fine, soft, silky wool, possessing the felting property in the greatest degree, as can be from sheep which yield only two pounds and a quarter to two pounds and a half a fleece.

In 1810 a very intelligent London wool broker, who was sent to Lisbon for the purchase of wool for several English manufacturing establishments, which was principally sent there for sale, during that year, in consequence of the French being in possession of the North of Spain, informed me that the Leonesa wool possessed the felting property in a greater degree than the Saxony, and that it was generally used in England for the manufacture of superfine cloths in preference to the Saxony. Since that time, the Saxony doubtless has been very much improved, and may have attained to equal perfection in this respect. I think there is a general error prevailing in our country in regard to wool. Light fleeces and fine wool are almost universally considered as synonymous. A flock of sheep that will yield three pounds of wool by being evenly fed summer and winter, and kept in fair stock case, by being half starved both summer and winter, may be reduced to two pounds. Now no one who knows any thing about wool, will undertake to contend that this half-starved and sickly growth of wool will make as strong and durable a cloth as will a healthy growth of wool from the same sheep; nor will the cloth made from the starveling wool, handle so soft and well as that made from the healthy wool. Sheep, too, which have been well pastured in summer and half-starved in winter, which is no uncommon case, in keeping more stock than our winter fodder will maintain, will have a very unequal growth of wool; the summer growth will be strong and flexible, while the winter growth, though a shade finer in the fibre, will be dry and tender; and such wool will not make cloth which is strong and soft to the touch. The Saxony manufacturers understand this principle well, and select accordingly, and hence make more durable cloths than the English; and they handle as well, notwithstanding the superior finish of the English. Yet we hear our wool buyers crying out, fine wool, sir! two pounds and a quarter, two pounds and a half, which seems to be their principal standard for fine wool; and according to this standard, the wool of a flock of sickly starvelings, as brittle as rotten straw, would be the acme of perfection.

I think I have now answered all your questions, and if I have tresspassed too far upon your patience, I hope to find an apology in the solicitude which you evinced to obtain full information on the subject. Since beginning this letter, I have looked over some letters and papers, touching the number of merinos exported to this country, which has enabled me to correct an error in my letter to Mr. Calvin Benton in 1836, respecting the number shipped, and which error I fell into from trusting altogether to my memory. Respectfully, Wm. Jarvis.

CULTURE OF COTTON IN GEORGIA.

Messrs. Gaylord & Tucker—About the middle of January, 1843, I moved to this place, which is considered by the neighbors, the poorest plantation in the neighborhood, it having been in constant cultivation for upwards of twenty years, without rest or manure. It is poor pin land, but lies almost level, and is easy to cultivate. I very soon became a subscriber for your valuable Cultivator, and noticing Dr. Cloud's improved plan of raising cotton, I was induced to try one acre. Not having the proper kind of compost, I used for broad-cast, raw stable manure, and in each hill half a gallon of such as I could gather in the barn-yard, and treated it throughout after the Dr.'s plan. From insects and other causes, there was 568 missing hills; from this acre I gathered 1,428 lbs. seed cotton. In August, we had a slight drouth; the cotton turned yellow, and cast a great many of the balls and squares; this I think was occasioned by the raw stable manure.

I also planted six acres four and a half feet by three, and put in each hill half a gallon of barn yard manure, not having any for broadcast cultivation, nearly the same as the above; the yield was above a thousand pounds per acre. The balance of my cotton was planted in the ordinary way without manure, $3\frac{1}{2}$ feet by 12 inches. From this I gathered 515 lbs.; I think there was no difference in the quality of the land previous to planting. I am fully satisfied, if I had used the proper kind of compost, instead of the unrotted stable manure, and a full stand, I would have had 3,000 lbs. instead of 1,428. I am so much pleased with the Dr.'s plan, that I expect hereafter to practice it as far as my ability will afford; and if I could obtain some of Dr. Cloud's improved cotton seed, I flatter myself that in a few years I would be able to astonish some of our cotton planters that adhere so strenuously to the old system of kill, cripple and go ahead.

Houston Co. Ga., Jan. 30th, 1844. J. D. H.

PHILOSOPHY OF WOOL—No. III.

ELASTICITY.

Messrs. Editors—A writer observes—"There are two antagonist principles continually at work in every part of the frame of every animal; and it is on the delicate adjustment and balance of power between them, that all healthy and useful action depends; the disposition to give way, or submit to some alteration of form when pressed upon, and an energy by means of which the original form is resumed, as soon as the external force is removed." These two principles are beautifully exemplified in the fibres of wool, obviously much dependant on the numerous and minute spiral curves, so manifest in the Saxon and Merino. Take for instance, a single fibre of wool of these varieties of sheep, if it be stretched to its full length, and then suddenly set free at one extremity, it will resume its ringlet form; and hence upon the union of *pliability* with the *elastic principle* chiefly depends the usefulness, and consequently value of wool.

The play of these powers is differently adjusted in different wools. In the Saxon, calculated for our finest fabrics, the action of these opposing principles is beautifully balanced. Hence it is the fabric is so easily shorn of its superfluous nap, the facility with which it yields to pressure, and covers the threads of the cloth with a dense, soft pile. Notwithstanding the injury the elastic powers may receive by the process of manufacture, yet by the aid of a microscope, the nap presents innumerable minute curves closely tinging the texture; and to this much of the beauty of our finest cloth is owing. To these opposing powers of the fibre, the felting principle is not a little indebted, as will be explained hereafter.

SPIRAL CURVE.

The spiral curve or ringlet form of wool, has been referred to. This is one of the distinguishing qualities between wool and hair, the latter being comparatively straight. It is remarkable in all short wooled sheep, but in no other varieties is it so conspicuous as the Saxon and Merino. It is observable in the Leicester and other long wooled varieties, but in a far less degree; and with some species of the goat under the hair of which is found a perfect wool, having the true felting property, and the fibre considerably curved.

I am now about to state a fact, confirmed by my much lamented friend, Mr. H. D. Grove of Rensselaer Co., who was a native of Saxony, and which from its novelty, will surprise many.

There is an intimate connexion between the fineness of the wool, and the number of the curves, or otherwise, *in proportion to the number of curves in a given span, is the diameter of the fibre*. It should be stated, however, that this is more generally true of *pure* Saxon and Merino. It can be easily demonstrated, if the experiment is fairly made with the *micrometer*, care being taken not to destroy the curves by extension, but the fibre placed in the instrument as it *naturally grows upon the sheep*. From M. Lafoun's work on German management of sheep, the following is extracted, bearing on this point:

"Those breeding *pure* Saxons, inspect their flocks three times in the year; before winter, when the selection of lambs is made, in the spring, and at shearing time. Each sheep is placed in its turn on a kind of table, and examined carefully as to the growth, the elasticity, the pliability, the brilliancy, and the fineness of the wool. The latter is ascertained by means of a micrometer. *It being found that there was an evident connection between the fineness of the fibre and the number of curves*, this was more accurately noted, and the following table was constructed. The fleece was sorted in the manner usual in France. The fineness of the Superelecta, or picklock, is represented by a span corresponding with the number 7 on the instrument."

Sort.	Name	Curves in an inch.		Diameter of fibre.
1.	Superelecta,	27 to 29	7	or 1-840th of an inch.
2.	Electa,	24 to 28	8	or 1-735th "
3.	Prima,	20 to 23	9	or 1-660th "
4.	Secunda Prima,	19 to 19	10	or 1-588th "
5.	Secunda,	16 to 17	11	or 1-534th "
6.	Tertia,	14 to 15	11½	or 1-510th "

The above will show the necessity of more care with wool growers in breeding from such sheep only whose wool approximates nearest to the principle laid down, as it is to this curled form of wool its most valuable uses depend. It is one agent, though not the principal, in producing the phenomena of felting. "It materially contributes to that disposition of the fibres which enables them to attach and entwine themselves together; it multiplies the opportunities for this interlacing, and it increases the difficulty of unraveling the felt."

The numerous and minute curves being, as observed, eminently characteristic of the pure Saxon and Merino, will serve as a sure test, in all cases, of the purity of blood, and therefore affords a certain and unerring guide in the selection of breeding sheep. If it is rigidly adhered to, the every day attempts to dispose of grades for high bred sheep will be frustrated.

SOFTNESS.

It is not as generally known as it should be, that softness is a quality of wool of much consequence. When the wool buyer and stapler proceed to an examination of a parcel, their judgment will be materially affected as to its value, whether "soft in handle," or otherwise. This, however, generally speaking, is the result of comparative fineness; but by no means always so, for wool of the same quality of fineness has not the same degree of softness. There are several causes to account for it, and among them is soil; as for instance, the chalky districts of England, affect the wool to such an extent as to make it invariably brittle and harsh. This however, is only local. The general cause of a deficiency of softness in wools of the same breed, may be referred directly to the *condition* of the sheep. In a former number it was stated that when the animal was kept in uniform good condition, the necessary quantity of *yolk* was supplied. Now if there is but little of this substance, which will follow an abuse in management, the wool will be less pliable and "kind to feel." Therefore it may be set down as a universal rule, that wool owes much of its softness to the *presence* of a *sufficiency* of *yolk*.

As a testimony how much this quality of wool is appreciated by the manufacturer, it is affirmed on the authority of an English author, "that two parcels of sorted wool being taken, possessing the same degree of fineness, but the one having the soft quality in an eminent degree, and the other being harsh, the cloth prepared from the first, at the same expense, will be worth more to the manufacturer than the other, by full 20 per cent." The salving of sheep in Scotland and the northern extremity of England, alluded to in my last, is very much for the object to promote softness of the wool; and the result from the manufacture of such wool, as stated by Mr. Bakewell, will also be remembered.

Trueness of the fibre, and the *influence* of *temperature* upon wool will be embraced in the following chapter.

L. A. MORRELL.

Lake Ridge, Tompkins Co., N. Y.

ROAD WORKING.

MESSRS. GAYLORD & TUCKER—Among the many useful subjects that have received attention in the volumes of the Cultivator, I see this has not been entirely lost sight of. That great errors exist in road working, is obvious to every reflecting mind. If the time spent towards making and repairing the roads in our county had been judiciously applied, it would have made every foot of them free and in better condition than they now are; but such is not the case; on all the great market roads, the farmer is mortified with the sight of a gate across it.

I shall now undertake to give you a description of the way our roads are made and repaired in this township, with this remark, that I believe they are as well attended to as in any part of our wide country. Our population for industry and intelligence, need not fear to be compared with any other. At our annual town meetings, a certain amount is raised for the roads, and overseers appointed for the several districts. Then by a master stroke of policy, before they leave the ground, they pay $500 of this tax by extra allowance on the price of their labor. Next when convenient, the overseer calls them out to work on the road, to meet at such a place, one with his team, and a dozen or twenty, or perhaps more, with each a shovel; this helps to support them when they get too lazy to stand alone; then commences the work; the team, with one to hold and one to drive, goes ahead and scratches up a little dirt, and the rest follow after and throw it in; and should it happen not to rain for some days to come, they will not do much hurt. If one of the number should chance to say where an improvement might be made, he is silenced by the majority telling him that it would be spending too much time in one place. If a small stone bridge is necessary, the overseer, who is generally very much interested in the welfare of the district, tells them it is wrong to take the district money for such a purpose; so a county freeholder is called, and as much paid in fees as would have done the work; thus taxing themselves two dollars to save one, and this is done by men who are shrewd calculators in their private affairs; they appear to feel and act as if this was a burthen imposed upon them in which they have no interest.

Thus I have tried to give you a true picture of road working with some few exceptions so far as my observations extend; I shall now try to point out some remedies as they occur to my mind. And first, let the people bring their minds to bear on the subject. Next, let the one who has the management of the work, call out no more help than can be profitably employed; six men will always do more work on the road than twelve; be sure to have all the necessary team help and tools of every sort that may be wanted. If there is a hill that requires all the exertion of a team to draw 10 cwt., let them be unceasing in their efforts to improve it, either by altering its course, or by pulling it down till they are able with the same exertion to draw 20 cwt.

We live here in a hilly country, and I know many such that before this, might have been lessened one-half in the draft, with the tax that has been paid. There is a large proportion of our roads, from the nature of the ground, and the vast amount of work it would require to cover it with gravel "8 or 10 inches," must remain pretty much as they are; they are mostly level, and when frozen or dry are good; but the hills are hills in all seasons and in all weather. And last of all, bring the subject to notice now and then in the useful columns of the Cultivator. Good roads and good husbandry are nearly allied. On the other hand, where no effort is made to improve the one, the other is in a corresponding condition.

Newton, Sussex co., N. J. SAMUEL CASSIDY.

The Garden and the Orchard.

CULTURE OF FRUIT—No. III.

ADDITIONAL REMARKS ON TRANSPLANTING, GRAFTING, &C.

The writer having just been favored with some criticisms, and additional remarks, from a source entitled to the highest confidence, hastens to add them to the remarks already furnished.

"*Seven feet* in diameter is not too large for the holes, but it is too much to insist on when many trees are to be transplanted; because common folks would not obtain the necessary labor in the planting season. I could not, for one. By being too strenuous, our advice might be wholly rejected." The object of the writer of these articles was to state what he considered the *best* and *most economical* course, not what he thought would be most probably followed.[*] The holes may be dug for ten cents a piece; the trees cost twice as much, and will grow more than twice as fast, and produce more than double in a given time. But very few can afford to spare the labor in the transplanting season; hence it is better either to make the holes somewhat smaller, to dig and nearly fill them at some other season, or to transplant one-half as many, which, if done in the very best manner, and afterwards well cultivated, would probably yield more fruit than a much greater number taken care of in the usual manner. The necessity for large holes would doubtless be in a great degree obviated, in planting large orchards, by plowing a strip of land eight feet wide for each row, of double depth, and applying and thoroughly mixing with the soil, so much well rotted manure, compost, or chip-dirt, as the case may require.

"The great benefits of chip-dirt and rotten wood, so excellent for all kinds of trees, both for fruit and ornamental, has been overlooked."

"No certain rule will apply well for the distances between apple trees. The *Bough* would do well on a square rod or 160 to the acre, while of "*the* 18 *ounce apple*,"[†] more dwarfish still, more than 200 might grow on an acre. On the contrary, the *Spitzenburg* ought to stand on four square rods, and the *Swaar* on half that space. Again, the Seckel pear, and all cut-leaved peach trees, are dwarfs. 'Mere varieties [often] differ greatly in in size.' " But it becomes necessary to adopt some uniform distance in planting common orchards, and in the former article, the *average* was taken. The instances just mentioned are unusual variations, and in very large orchards for commercial purposes, it might be well to vary the distances of the rows, without changing the distances *in* them, for the several sizes.

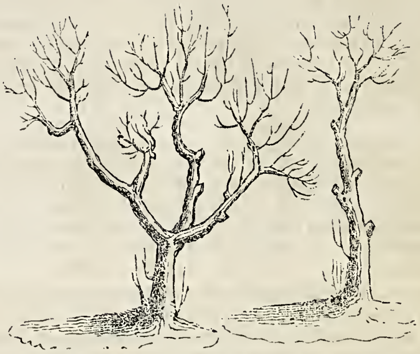
"Does the curculio '*rarely*' though '*frequently*' attack the earlier peaches?" The writer stated in No. 1, that "it rarely touches other than smooth *stone* fruit;" and that "the earlier peaches frequently suffer from its attack." The White and Red Nutmeg were chiefly alluded to, which are *rare* in comparison with the rest of varieties. They are also comparatively smooth, nearly as much so as the apricot, which, though not possessing the glossy surface of the plum and nectarine, is so clear of down as to invite freely the attacks of this insect. "No notice is given of catching it on sheets; and yet without this method, I could not hope for apricots in a fruit garden as large as mine. Last spring we destroyed [by this means] more than 1,600, and more than this number two years before." It is done as follows:—Sheets are spread under the tree, which is jarred violently; the insects immediately drop on the white surface, where they are seen at a glance, and destroyed by the thumb and finger. The best time for the work is the cool of the morning. If commenced early enough in the season and continued every morning for a few weeks, this mode proves very effectual. Twice or three times a day would doubtless be better. The blow of a mallet on the stump of a sawed limb, is the best mode of jarring the tree. A few minutes time is sufficient for many trees, if a few boys are at hand to carry and spread the sheets.

"The *pail of water* should be applied [in transplanting] by throwing on about two or three quarts at a time, though *dashing* would be a better word."

"Transplanting in autumn should be confined to dry soils, or such as are so loose that water will not stand in the holes during winter. In clay, trees should not be set in autumn."

"To guard against *mice*, raise a small mound of earth one foot high round the tree. This method has never failed with me, and has proved of no injury."

The preceding remarks are given with the hope that they may prove of value to others, to whom objections similar to those just quoted, may have occurred.



PRUNING ORCHARDS.—Fig. 39.

In the remarks on the Apple, in the last number of this paper, a very common error in pruning old trees, was not noticed. It consists in trimming up the branches to a height of ten or fifteen feet from the ground; which, without much benefiting the growth of the tree, renders their appearance extremely unsightly, and precludes the possibility of gathering the fruit without great difficulty. Fig. 39, represents two specimens of this bad pruning; which are not worse in appearance, than hundreds found all over the country. Fig. 40, shows how they should be trimmed, to cause a fine, new, thrifty head, not so high as to be above easy reach, nor so low as to prevent the cultivation of the land. In heading down all large trees of this kind, it will be obvious that the large wounds need a covering; the best of which is a mixture of tar and brick-dust, applied hot to the fresh surface.

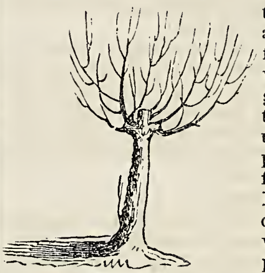


Figure 40.

The trees are represented leafless, in order to show them more clearly.

J. J. T.

CULTIVATION OF FRUIT.—No. IV.

THE CHERRY.

Cherry stocks, in common with those of other fruit trees, are best when raised from seed; and for this purpose the stones should be dried moderately in the shade and then buried in earth, or else buried as soon as taken from the pulp. If they become much dried, vegetation will always be retarded a year, and generally wholly prevented. The mazzard or heart varieties are preferable for stocks on account of their straight and rapid growth. They are grafted standard height, when the round fruited varieties are inserted into them, as in such case they furnish better shaped trees. When budded standard height, the first shoot of the bud should be cut down to three or four inches, to form a better head.

Great difficulty is sometimes found in successfully grafting the cherry. It should be performed very early in spring, before the buds have started in the least degree. *Budding* has also been found difficult. This can be successfully practiced only on thrifty stocks during their most vigorous state of growth, which is usually in the early part of summer; the delay of a few weeks will often prevent entirely the adhesion of the bud.

---

[*] In this he acknowledges himself inferior in shrewdness to the man from Limerick, who, writing home, stated he had *meat* in America twice a week: "But," said his companion, "you have it every day." "Aye," replied he, "but do you think I'm such a fool as to tell them what they will never believe!"

[†] A large striped apple, commonly known as the "*Twenty ounce apple*."

The cultivated varieties of the cherry are divided into two classes; the *first*, consisting of the Mazzards, Hearts, and Bigarreaus, is characterized by tallness, and well shaped and pyramidal form; by light green leaves, large and vigorous young branches, and a sweet, or bitter, but not sour taste. The *second class*, includes the Dukes, Morelloes, and common sour or pie cherry, and has small, irregular and compact branches of low spreading growth, dark green leaves, and strongly acid fruit. A little observation will enable any one readily to distinguish these two kinds, even when the trees are not more than a foot in height.

The following are among some of the best varieties:

I. Heart-shaped Fruit.

May Bigarreau.—This is probably the earliest variety of value. It ripens in the early part of sixth month (June,) sometimes earlier, and is not later than the Early May. It is of good size, oblong, heart-shaped, dark red, and of good, but not high flavor. It is an abundant bearer, and is liable to crack from moisture.

Black Tartarian.—A fruit of large size and uncommon excellence, and by some, considered superior to all others. The fruit is sometimes more than an inch in diameter. But when crowded, it is smaller, and is then liable to rot on the tree.

The *Black Corone* is smaller than the Black Tartarian, a great bearer, and of fine flavor. It is not uncommon in various parts of New-York, and is occasionally known under the erroneous names of Ox-heart, Albany cherry, &c.

White Tartarian.—The fruit is of medium size, and of most excellent flavor, even superior in quality to the preceding variety. It is also a great bearer. Two varieties by this name, are described in some books, both of which appear to be distinct, and inferior to this, which is cultivated by the writer.

The *Elton* is a fruit of uncommon excellence. It is thus spoken of in the London Pomological Magazine:—"This invaluable variety was raised in 1806, from the seed of the Graffion which had been fecundated by the the pollen of the White Heart. Its merits can scarcely be too highly spoken of. In flavor it is considered by many as the most delicious of cherries; in beauty it is scarcely surpassed by any other; and its hardiness and productiveness are now ascertained by the experience of all who have cultivated it." A few years' cultivation in western New-York, fully corroborates the high character above given.

The *Transparent Guigne* is one of the best of later cherries. The tree is of very vigorous growth, and yields abundant and regular crops; the fruit is of medium size, and when *fully ripe*, is of a very high and excellent flavor.

The Graffion, Yellow Spanish, or White Bigarreau, is remarkable for the vigorous growth of the young trees, and for the large size, beauty and excellence of the fruit. It is more spreading in growth than most heart trees.

A new variety from England, named *Knight's Early Black*, resembles the Black Tartarian, but possesses the rare merit of ripening more than a week before it. It has scarcely been proved in this country; but should it be well adapted to our climate, it will doubtless be found a most valuable acquisition to our list of fruits.

The *Black Mazzard* is the natural species whence all the cultivated varieties of the heart-shaped cherries have sprung; the fruit is very small, black and of bitter flavor, and is therefore only to be cultivated for stocks.

2. Fruit Round.

Early May.—The growth of this tree is very slow, and the fruit is small, and not high flavored. Its only merit is that of ripening before any other sour variety. In favorable seasons, it arrives at maturity in western New-York, in the latter part of the fifth month (May.)

Early Richmond.—This fruit ripens about the time of the Black Tartarian, (the early part of sixth month,) and when well matured, is a little above medium size, and is tender, rich, and juicy. It is rather too acid when first ripe to be pleasant to the taste, but is fine for cooking; it becomes delicious when it continues on the tree a few weeks longer.

May Duke.—Much confusion has prevailed in relation to this variety. This is probably owing in part to the cultivation of some inferior sub-varieties, but chiefly to the fact of its great variation in time of ripening. On some trees the fruit is ripe, while on others it remains green, and this difference is often seen on different limbs of the same tree. Hence the absurdity of the usual practice of writers on fruit dating the maturity of other varieties from that of the May Duke. The period continues from the ripening of the Black Tartarian, through several following weeks. It is a fruit of great excellence and richness of flavor, but is usually gathered when it has attained only two-thirds of its size, and before its flavor is half perfected.

The *Carnation* is a large, fine, and handsome fruit, ripening about a month later than the Black Tartarian.

The *Belle de Choisey* much resembles the Carnation in external appearance, but is earlier, of more delicate texture, and of sweeter and finer flavor.

Excellent outline figures of a part of the preceding varieties were published in No. 9 of last volume of the Cultivator, by A. J. Downing.

In most parts of this state, the cultivation of good varieties of the cherry has been perhaps more neglected than any other kind of fruit; many who have made considerable effort, to procure good orchards, seem never even to have seen any better than the black mazzard and Kentish red. And those who have better varities, rarely ever witness their good qualities, from the very general practice of picking them before maturity. Cherries not unfrequently attain the *appearance* of ripeness, when scarcely more than half size, while little of their excellence is yet to be perceived.

The cherry, to succeed well, should grow upon a dry, light, rich soil. It rarely succeeds well in a moist situation, and frequently dwindles and dies in a few years. Pruning is but very little practiced, and is generally not needed. English writers mention cases, however, where old stunted trees have been greatly benefitted by pruning, ank speak of the absolute necessity, where it is resorted to, of protecting the wounds thus made from air and moisture by an application of a suitable composition.*

The diseases and enemies to which the cherry is subject, in New-York, are few and not formidable. The tree is therefore one of remarkably safe and easy culture, after it has been procured. There are some varieties, however, which are attacked by an insect which causes large black excrescences upon the trees. Whenever these appear, the injured branches should be cut off immediately and committed to the fire. Perhaps the greatest difficulty in the cultivation of this fruit, is the depredation of birds, especially of the small, brown crested bird, called the *Cedar Bird*. The only effectual remedy yet found, appears to be powder and shot. The birds soon become suspicious and fearful, and less destructive. Small trees of valuable fruit, might be protected by a coarse cheap net thrown over them. Some of the round varieties are stung in the fruit by the Curculio.

J. J. T.

EARLY POTATOES.

Last spring, the following experiment was made with early potatoes: One row across the garden was planted as soon as the ground was open, with seed which had been kept in a warm cellar, and had become sprouted about two inches long. Care was taken not to break or injure these shoots. Another row beside this was planted at the same time with seed which had not sprouted. The former were up nearly two weeks earlier than the latter, and were from four to six inches above ground when the unsprouted ones appeared at the surface. They maintained the same superiority through the season. J. J. T

---

* For this, see a former number of this series of articles, on Pruning.

CULTURE OF THE GRAPE.

In our February number, we spoke of Dr. "Underwood's" vineyards at Croton Point, Westchester county, N. Y. We should have said Dr. UNDERHILL.

We are happy to lay before our readers the following communication from Dr. Underhill:

MESSRS. EDITORS—I have occasionally written some articles for the Cultivator on the culture of the grape, but as some time has elapsed since you last heard from me, you may have supposed I was taking a Rip Van Winkle sleep, and that you would rouse me by putting another in possession of my vineyards. If these were your views, I assure you you are mistaken. I require no process of this kind to keep up a lively interest in the culture of the grape, though my engagements may prevent my communicating with the *barometer* of the agricultural and horticultural progress of this country, as often as I could wish.

The advantages that would be derived not only in an individual, but a national point of view, from a greatly increased culture of all our choice fruits, is not fully appreciated. The large quantity of animal food consumed by all classes in this country, renders the antiseptic and diluent properties of fruits in temperate and tropical climates, absolutely necessary to the promotion and preservation of health. The alarming increase of diseases of the heart, apoplexy, palsy, obstructions of the liver, lungs, and other vital organs, and the rapid progress and violence of the inflammations consequent upon these obstructions, are directly or indirectly connected with and dependent upon a plethoric or overloaded condition of the blood vessels; a state of the system, which a free use of ripe fruits and vegetables is best calculated to prevent and correct. The object to be obtained in this case, is too manifest and striking to require any enforcement from argument. Physicians, however they may differ in opinion on some subjects, agree on this, that the free use of good ripe fruits, such as the grape, the apple, peach, &c. &c., is well calculated to promote and preserve a healthy state of the human system. We have therefore not only pecuniary inducements to cover our fields and the banks of our rivers with the choicest fruits, to delight the eye and gratify the taste, but a far higher object, the promotion of the health and happiness of our fellow creatures.

Notwithstanding all the efforts that have been made for a number of years past, to advance the culture of the grape and some other fruits, (and the success has been very encouraging,) there does not appear to be any probability of overstocking the markets of the large cities on the seaboard, for a quarter of a century to come. Indeed, if still greater efforts are not made, and far more land employed than has been for these purposes for many years past, the growth of the cities will be greater than the growth of the fruit; added to which, rail-roads and steam have opened many new markets, and will continue to do so for years to come.

The farmers in the interior and to the west, owing to their cheap alluvial soils, find it to their interest to supply us with large quantities of grain and less perishable articles than fruits; and the owners of far more costly land near our large cities and rail-roads, would find it greatly to their advantage to turn their attention more to the productions of the garden, the vineyard and the orchard, than they have heretofore done. The grape, from its arriving at the bearing state so soon, and continuing to produce a bountiful crop every year when well cultivated, for an almost indefinite period of time, possesses advantages over every other fruit with which I am acquainted; and hence, of late I have given it a decided preference on my place at Croton Point. As fast as my peach orchards fail or show symptoms of decay, if the ground is suitable, I occupy it with the grape. A bank well covered with good plants of the Isabella grape, properly and carefully cultivated, will, I am fully persuaded, give larger and more certain dividends, in proportion to the amount of capital invested, than any other bank in the State. Then the enjoyment which the management of a vineyard will affoad, the general reader may have formed some idea of from the perusal of the pages of sacred and profane history, but can never fully realize till, while cutting the tender shoots with his own hand, he inhales the delightful perfume of the delicate blossom of the vine; and when at the wane of the season, he clips the large, well filled clusters from the branches, enrapturing the eye, the taste, and the smell, then it is that he can comprehend the reason why the grape has been made the theme of the poet, philosopher and divine, in every age of the world. Yours truly, R. T. UNDERHILL.

New-York, Feb. 17, 1844.

CHANGE OF FRUITS.

"I beg leave to state the result of an experiment made by myself, in order specially to test the correctness of this idea, (that the flowers of one tree are impregnated by the pollen of others, thereby producing all manner of fruit; but when a tree is isolated so that no such union takes place, the fruit will resemble the original. See Cult. vol. 10, page 87.) Some fourteen years ago, when about to emigrate from western Pennsylvania to this place, I procured some seeds from an apple-tree on my father's farm, which stood entirely apart from other fruit trees, and about 60 rods from the orchard. As the produce of these seeds, in due time, I planted in my orchard three trees, which have bore apples for several years past, and we find the fruit of each differing entirely, one from another, in size, color, taste, and time of ripening, and none of them have any resemblance to that of the parent tree.

I am unable to reconcile these *facts* with the view of your correspondent, in any other way than by supposing that the pollen from the trees in the orchard, had blown to the tree from which I obtained the seeds. Has the opinion in question ever been confirmed by actual experiment, or is it founded on theory alone?

Knox Co., Ohio. J. CRAWFORD."

We believe the theory in question, originated with Mr. Knight of England, who made a vast number of experiments, to determine this and other uncertain points in vegetable physiology. Supposing the pollen that impregnated the blossoms, to be in a great degree distributed by bees or other insects, he covered some bunches of of apple blossoms with fine muslin, so that they must have been fertilized by the natural process, and these seeds produced fruit like the original tree, or with little difference. Other bunches he covered in a similar manner, and carefully opening the flowers, removed all the anthers before the process of impregnation commenced. At the proper time, the pollen from other flowers was sprinkled over the pistils of the secluded blossoms, and the seeds from these, produced undoubted hybrids, the result of a cross-fertilization.

Since the labors of Van Mons, Duquesne, &c. have been made known, a different theory has become very prevalent, which is, "that wild plants or fruits, while growing in their native wilds, are generally perpetuated from generation to generation without change; but this is not the case with the *hybrids* or *cultivated* varieties, however isolated, or far removed the tree may be which produces the seeds, from any other of its species." This theory supposes that all the improved or cultivated fruits are hybrids, and that there is in them a constant tendency to show more or less of the different varieties from which in the course of years, they have originated. On this theory, seeds from an isolated tree, would furnish no guarantee that the fruit would be like the parent. The student of nature will not fail to see in this theory a close analogy to facts known to exist in the hybridism or changes of character in animals; and our correspondent will see that the question is one which must be considered open to further investigation.

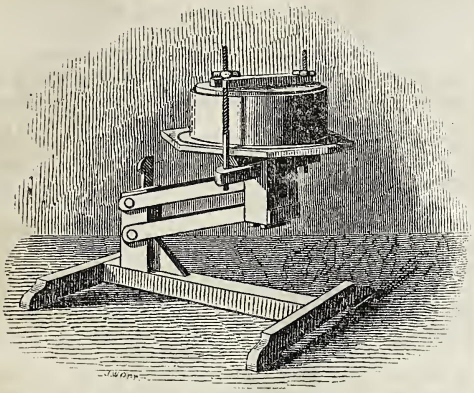
FRUIT TREES.

The New-York True Sun says an orchard of only four acres in Mannington, N. J., produced last year,

360 bushels of apples, at 50 cts.......	$180 00
30 barrels of cider at $1,50...........	45 00
	$225 00

The same man had 12 acres of corn—product, 600 bushels, at 37½ cts., $225. So that 4 acres of orcharding yield as much income as 12 acres of corn.

Domestic Economy.



SELF-ACTING CHEESE-PRESS.—(Fig. 41.)

In vol. 9, page 167 of the Cultivator, we gave a description of this press, (fig. 41.) At that time it had not been generally used; but since then, experience has fully tested its superiority. We placed one, which had been sent us, in the hands of Messrs. H. P. & G. Allen, of Duanesburgh, well known as extensive manufacturers of cheese, and after giving it a thorough trial, they have forwarded us the following certificate.

Messrs. Editors—We have had one of Messrs. Collins & Stone's Patent Cheese-Presses in use the past season, and consider it much superior to any thing of the kind we have before seen, and think the properties of this press need only to be known, to bring it into general use.
H. P. & G. Allen.

Duanesburgh, Feb. 1844.

N. B. Mr. L. Kennedy, Jr. of Hartford, Ct., is general agent for this press.

CHEESE MAKING.

Our Canadian correspondent, "*Enquirer*," says—"If it would not be trespassing too much on your indulgence, I would solicit an article on the best method of making cheese, either from your own experience, or that of some experienced cheese maker. I do not recollect meeting with any thing of the kind in your publication for this year, (1843,) or at any rate, nothing sufficiently explicit to enable a beginner to count upon success. The best method of reserving the oily particles to the cheese, and at the same time expressing the whey well, is not well understood in this country. There appears to be variant opinions with regard to the method of separating the whey from the curd, also of the proper way and time of salting it. It has been observed to me that the Americans incorporate a little lard with their cheese, thereby imparting the mellowness so much desired in that article."

If Enquirer will turn to the 147th page of the Cultivator for 1843, he will find the concluding part of one of the best papers on the subject of the dairy or cheese making, yet published in this country; but as the present volume will pass into many new hands, we shall give an article which we hope will meet the wishes of our correspondent and others.

Having had considerable experience in the dairy business, we have found that there are so many things to be taken into consideration, that all rules for their management must be more or less general; and no directions, however minute, can compensate for experience. In large dairies, curds are turned, or cheeses made, at both morning and night; in smaller ones, the night's milk is set, and the cheese made in the morning; in still smaller ones, the milk of two or three days is required to make a cheese, and of course different methods must be adopted in each case. We shall suppose the quantity of milk given at two milkings, to make a cheese of some 30 or 40 lbs. weight, a medium perhaps of our dairies.

In making the rennet, the dried stomach of a calf is the best material; it should be cut in small pieces, soaked in water or sweet whey, to which must be added salt enough to keep it sweet; and at the pleasure of the maker, sage, summer savory, or other aromatic herbs. If the rennet is properly made, a gill will be sufficient for a cheese of 20 lbs.; but its strength can only be ascertained by experiment. If too much is used, the cheese will be puffy and strong; if not enough, the curd will not be formed, and a waste of milk will ensue.

In hot weather it will be found necessary to reduce the temperature of the milk drawn at night, to 50 to 55 deg. of the thermometer, which is best done by placing the pans or vessels in cold water. In the morning, the cream must be carefully skimmed off and put in a pan. As the milk when set, should be of the temperature of 90 to 95 deg., the quantity of milk to be warmed, will depend on the external air; as in a cool day, the milk of the morning will be lower than in a warm day, and a too low temperature must be guarded against. Into this milk while warming, the cream taken off, must be put, and raised to such a temperature that when it is united in the tub with the remainder, and with the morning's milk, the temperature may be about 90 deg. Sometimes it is necessary to warm the whole night's milk; but this is only in very cold weather; while when the weather is warm, the cream may be put in the strainer and melted by pouring the warm morning's milk over it. The thermometer in these cases, must, however, be the guide; and the operations of the dairy cannot well be conducted without this instrument.

When the proper warmth has been given to the milk, and the cream fully incorporated, the rennet is to be added, and thoroughly stirred into the mass. The time allowed for coagulation will depend on the strength of the rennet; and if good, an hour will be about the proper time; during which, more or less of the cream will naturally rise to the surface. When properly coagulated, the curd will bear a slight pressure on its surface without breaking; but experience here is much the best guide. To prevent the escape of what cream may rise with the whey, it should be carefully skimmed to one side of the tub, and covered with some of the coagulated milk laid upon it with a skimmer. The whole is then carefully broken up with a cutter like a long wooden knife. Much is depending on this operation, as if not well done, the butyraceous matter which gives character and excellence to the cheese, will be carried off by the whey and lost. A coarse strainer or cloth, is best thrown over the curd, through which the whey is dipped as it rises, as long as it can be dipped conveniently. The curd is then again broken up, and the whey more completely dipped off than before. Some of the first whey is to be heat as soon as dipped off, for the purpose of scalding the curd. Great care must be taken not to scald the curd too much. Two pailsful at 130 deg. will scald a curd of 20 lbs.; but the weather and the quantity of curd must be consulted to determine correctly. When the hot whey is poured on, the curd should be broken up and mixed by hand, that all parts may be equally treated, and made as fine as it can be broken. It is now removed to a strainer and basket, and when the curd is drained, it is returned to the tub for salting. Half an ounce of good salt to a pound of cheese, will prove a good rule, but the taste of the dairy woman is perhaps as good a regulator of this matter as any. The salt must be pure and fine, and thoroughly mixed with the curd, or it will not ripen equally, and the unsalted places will acquire a bad flavor.

The pressure required, mainly depends on the size. The curd is put into the hoop or vat in a strainer, and remains in the press about two hours. It is then removed, placed in a dry cloth, and returned to the press. It should not remain in the press without turning, longer than five or six hours at a time, and from 24 to 36 hours will be necessary to complete the operation. A power of from 80 to 100 pounds for every 15 pounds of cheese, will be a sufficient pressure. Where large cheeses are made, it has become a common practice to pass a bandage made of thin cotton cloth, of the same width as the thickness of the cheese, around them, and secure it by stitching it together at the extremities. This will pro-vent the spreading of the cheese, and thus prevent the danger of cracking and of loss from that source. We have found such strips of cotton of the greatest use; and the larger and richer the cheese, the greater their value to the dairyman. Milk may be tinged so as to give a richer hue to the cheese; but if the cream is all added, and the cheese well made, coloring matter will be unnecessary. Annatto is the best coloring material, as it is harmless; which cannot be said of all the ingredients sometimes used for this purpose. There should be a free ventilation to the cheese room, but they should not be exposed to strong currents of air, as it makes them liable to cracking. Cheese should be turned on the shelves daily, and rubbed with butter made into an oil, at each turning.

We have never known an instance where lard has been used in any way in the making of cheese, unless perhaps sometimes as a substitute for butter at turning the cheeses during the process of curing, and we think it would scarcely produce the effect attributed to it by our correspondent, even were it adopted in the place of cream, at the time of making. In our next, we will give the mode of making the celebrated Gloucester cheese.

CREAM CHEESE.

Mrs. Reynolds, of Connecticut, desires to be informed of the mode of making cream cheese, mentioned in Mr. Sotham's communication in the January number of the Cultivator. In reply to her inquiry, we are pleased to give the following communication from Mrs. Sheldrick, under whose superintendence the cheese spoken of by Mr. Sotham was made.

Messrs. Editors—According to your request, I herewith send you a recipe for making cream cheese; and if any of your numerous readers can learn any thing from my experience, I shall feel most happy in communicating what I well know to be worthy the trial of all good house-wives.

Recipe.—Take one quart of very rich cream, a little soured, put it in a linen cloth and tie it as close to the cream as you can. Then hang it up to drain for two days—take it down, and carefully turn it into a clean cloth, and hang it up for two more days—then take it down, and having put a piece of linen on a deep soup-plate, turn your cheese upon it. Cover it over with your linen; keep turning it every day on to a clean plate and clean cloth until it is ripe; which will be in about ten days or a fortnight, or may be longer, as it depends on the heat of the weather. Sprinkle a little salt on the outside, when you turn them. If it is wanted to ripen quick, keep it covered with mint, or nettle leaves. The size made from a quart of cream is most convenient, but if wished larger, they can be made so.

ARABELLA SHELDRICK.

Hereford Hall, March 8, 1844.

MINCE PIES WITHOUT WINE OR SPIRITS.

DOROTHY DUMPLING, gives in the Southern Planter, her mode of making mince pies without wine or brandy. She says the best judges say, (and *behind her back, too!*) that her pies are as good as they ever tasted.

Take 4 pounds of plums, (raisins?) 1 pound of currants, 2 of cherries, 3 of beef suet, 4 of sugar, a fresh beeves' tongue, half a pound of citron, 1 ounce of mace, half an ounce of cloves, 1 nutmeg, the juice of 2 lemons, with vinegar to your taste. Make mince-meat of these materials, and put it by for use. When you make pies, add syrup, or juice of sweet apples, to make the mince-meat liquid, and some fresh apples chopped fine.

In place of citron, marmalade or preserves, will do.

OKRA—"GUMBO."

T. Affleck, Esq., gives the following mode of preparing this vegetable:—"A large mess of okra soup (called gumbo,) should be served on every plantation at least four days in the week, while the vegetable is in season. The pods are gathered while tender enough to be cut by the thumb nail; cut into thin slices, and with tomatoes, pepper, &c., added to the rations of meat, forms a rich, mucillaginous soup. It is planted (in Mississippi) about the first of March, in drills four feet apart, every two or three feet, if the ground is rich, which it should be."

Veterinary Department.

SCOURS IN CALVES.

Lovett Peters, Esq., in a communication in the N. E Farmer, says he has tried most of the remedies recommended for this disease, but has found the following succeed better than any other. "It is a half a pint of cider, and as much blood, taken from the calve's neck; shook well together and given him with a bottle."

BLIND TEETH.

John Johnston of Geneva, says he has had much experience with blind teeth. He states that when they come out in such a way that the grinders of the under jaw press on them, the eyes are always injuriously affected. The blind teeth should always be taken out as soon as they make their appearance.

WARTS ON THE TEATS OF COWS.

Cows are sometimes troublesome about being milked, in consequence of their teats being sore from warts. The Mass. Ploughman recommends rubbing the teats with the juice of *milk-weed*, and also the application of a poultice made of grated carrot. Both may be good; at any rate they will do no hurt, but the best plan to obviate this trouble is, to cut off the warts with sharp scissors, *when the cows are dry*. Not much blood will flow, and the teats will heal in a few days.

PROGRESS OF THE SILK BUSINESS.

Mr. J. R. Barbour, of Oxford, Mass., has lately returned from a tour of observation in regard to the silk business. In the Boston Cultivator, is an interesting communication from him, giving valuable information relating to this important branch of industry.

Mr. B. states that "there has been a large increase in the manufacture of silk in New-England within the last two years. Several new establishments have been started in that time, and old ones that were prostrated by the mulberry speculation of 1839, have been resuscitated and are now going on prosperously." He speaks of a large establishment just going into operation in Willington, Conn., for the manufacture of cords, gimps, and other trimmings. The building is over 100 feet long and three stories high. Messrs. Dale & Benmead are the owners, and they contemplate doing a large business.

Mr. B. also speaks of the establishment of Messrs. Murray & Ryle, at Paterson, N. J., which consumes 150 lbs. of raw silk weekly—also of that of Mrs. McLanahan, Philadelphia, commenced in 1841.

Mr. B. visited the two principal silk establishments west of the mountains, viz: that of Mr. Rapp, at Economy, Pa., and Mr. Gill, at Mt. Pleasant, Ohio. He pronounces the goods of these establishments, equal to any of the same kind brought from England or France. He found Mr. Gill building a new factory 50 by 20 feet, and three stories high, for weaving plain pongees for printing. He could hear of no establishment at the west that had failed or had been suspended; though many of them have suffered much from the want of more capital.

Mr. B. says the valley of the Ohio has gone ahead of New-England in the production of raw silk. He thinks the west and south will take the lead in the growth of silk, just as they do in corn and other agricultural products, and for the same general reasons and no others. The proper question, then, he says, for eastern farmers, is, not whether the west can lead them in this crop, but whether silk is not one of the best crops they can raise. Indian corn is one of the best crops for the eastern farmer, though it will be admitted that the west can take the lead in this article. Mr. B. says, "I reason about silk in the same way. Here we are, fixed upon our hills and plains. Some of us would not abandon them for the fertile west if we could. Here we are, and here we must be, and we must do something. We are on a tread-mill, and it is work or die; and the only question is, what articles of cultivation are most worthy of attention? Sooner or later my readers will decide in favor of silk, as one of the class."

PROUTY & MEAR'S PATENT CENTRE-DRAUGHT SELF-SHARPENING PLOWS,

FITTED up with new gear complete of six different sizes. Also, *Prouty & Mear's Sub-soil Plows*, of three sizes, viz: No 1, for one horse, $8; No. 2, for two horses, $10; No. 3, for three or four horses, $12. For sale wholesale and retail, by

D. O. PROUTY,
Seed and Implement Warehouse, No. 176 Market-st.
Philadelphia, March 18, 1844.—2m.

ALBANY SEED STORE AND AGRICULTURAL WARE-HOUSE—No. 38, BROADWAY.

THE proprietor is now receiving from his seed growers, a full and complete assortment of American Garden Seeds, all of which are selected with care, being grown from the best varieties of vegetables to be found in the country; also European Seeds, Plants and Flower Seeds from the best establishments in Europe and America.

Fruit Trees of all the choicest kinds furnished to order at the lowest market prices, and warranted true as represented. Agricultural and Horticultural Implements of American and European manufacture. Also, the New England Ploughs, Cultivator Ploughs, Root Slicers, Corn-Shellers, Straw-Cutters, &c. Those who wish to purchase or examine are respectfully invited to call Albany, March 15.—2t. W. THORBURN, Seedsman.

ROCHESTER (N. Y.) NURSERY.

THE subscriber offers for sale a choice collection of Fruit and Ornamental Trees. His Nursery contains many choice varieties of fruit trees which have been selected with scrupulous regard to their good qualities; thus affording a collection worthy the attention of the connoisseur or utilitarian. Distant orders will be carefully packed with straw in mats or boxes. Persons desirous of having a succession of fruit, and not being familiar with the kinds, may, by leaving it to the discretion of the proprietor, depend upon having those sorts which are most desirable.

S. MOULSON,
Rochester, April 1, 1844. 36 Front-st., Rochester.

FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at his long established Seed Store, a supply of the best quality and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, *Red Top*, or *Herd's Grass*, *Orchard Grass*,
Lucerne, or *French Clover*, *White Clover*,
Trefoil, *Kentucky Blue Grass*, &c. &c.

Also, the different varieties of Wheat, as White Flint, Red Chaff, Mediterranean, and English—for sale in lots to suit purchasers at moderate prices, by

ISRAEL RUSSELL,
Feb. 1, 1844.—mar. oct. 26 Front-street, New-York

N. B. The following description of some superior English Wheat sown in the month of October last, the product of which will be for sale at the above Store, is given by a respectable English farmer in the State of New-Jersey, who sowed about eleven bushels, a sample of which can yet be seen. "It is called the Uxbridge White Wheat, and is the most noted Wheat they have in England, it being of fine quality, always commands a high price, as the flour is used by the biscuit bakers in London; it is great for yielding, and puts out a much larger ear than any wheat I have seen in this country. I saw when in England, three years ago, on my brother's farm in one field, 120 acres, that yielded 40 bushels and upwards to the acre. It grows very strong, and is not liable to be laid by heavy rains. I will warrant it free from any soil whatever. I did not see in the eleven bushels, a particle but Wheat; and I have sown it on Clover seed, on purpose that there shall be nothing but Wheat; and I will put nothing in the barn with it, so as to put it beyond the possibility of a doubt of its having any thing in it or getting mixed with other Wheat, which through carelessness is often the case. I have grown a great deal of it myself in England, and know from experience that for yield and quality, there is no Wheat to compete with it. Its general weight is from 64 to 67 lbs. per bushel. It is smooth chaff, and easy to thrash, which is not always the case with smooth chaff Wheat."

BAILEY & RICH'S SMUT MACHINE.

MANUFACTURED and for sale by J. T. E. & C. RICH, Shoreham, Vt. Patented in 1841, much improved in 1843.

These Machines are made wholly of iron and steel, very compact, efficient, simple in construction, and durable. They are so made, that a strong current of air is forced into the centre of the machine, and passing out sideways through cracks in the inner and outer cylinders, expels the dust as fast as created, and prevents it from mingling again with the grain, as it does in other mills, so as to often blacken the kernels.

They will clean from 15 to 25 bushels per hour. Warranted to suit upon 3 months trial. Shoreham, Feb 16, 1844.—2t

---

CAMBRIDGE NURSERIES,

CAMBRIDGE, MASS., TWO MILES FROM BOSTON.

HOVEY & CO., Proprietors of these extensive Nurseries, would respectfully inform their friends and the public generally, that they have now ready for sale, an unrivalled collection of

Fruit and Ornamental Trees,
Evergreen and Flowering Shrubs,
Grape Vines, Raspberries, &c.
An extensive collection of hardy and tender Roses,
Green-house and hardy Herbaceous Plants,
Dahlias and Bulbous Roots,
Hawthorn and Buckthorn, for Hedges,
Apple, Pear, Plum, Cherry, and other Stocks.

This collection of fruit trees embraces all the best kinds; selections of which were made from the best nursuries in England and France, and scions procured from the well known Pomologist, the late R. Manning, of Salem.

The selection of Chinese, Tea, Noisette and Bourbon Roses, includes upwards of 200 varieties, many of them the rarest and choicest to be procured in England. The collection of Dahlias is most extensive, and comprises all the fine varieties in cultivation.

☞ All orders to be accompanied with cash or a draft. Catalogues of fruit trees, roses, Dahlias, vegetable and flower seeds, issued separately, and furnished to all *post-paid* applicants. Trees, plants, seeds, &c. packed so as to be safely transported to any part of the Union.

Address, HOVEY & Co., Seedsmen and Nurserymen,
7, Merchant's Row, Boston, Mass.

AMERICAN FARMER'S ENCYCLOPEDIA AND DICTIONARY OF RURAL AFFAIRS,

WITH 17 beautifully executed plates of Cattle, Agricultural Implements, Destructive Insects, &c., complete in 1 volume, 1150 pages, price $4, bound—embracing all the recent discoveries in Agricultural Chemistry, adapted to the comprehension of unscientific readers, by Cuthbert W. Johnson; enlarged, improved and adapted to the United States, by Governeur Emerson, assisted by numerous scientific gentlemen.

An excellent manual of agriculture—and we venture to say that there is not a farmer in the United States that cannot derive many useful hints and much valuable information from this Encyclopedia—Albany Cultivator.

No farmer or planter who desires to be master of the science of his profession, should be without this work.—American Farmer.

Its merits are far greater than we had before imagined, and we are fully convinced that such an amount of valuable knowledge for farmers can be found in no work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession should consent to be without it. As a book of reference, it is invaluable—we would not be without it for four times its cost.—New Genesee Farmer.

Should be in the library of every farmer.—American Agriculturist.

We heartily recommend it to our readers, and wish every farmer in North Carolina would take it and study it carefully. Raleigh Star.

A real treasure of practical information wherein the experience of all ages and countries is carefully posted up to the present day, and admirably arranged for convenient reference —Dr. Darlington.

For the farmer who can have but few books, we know of no one relating to his profession so valuable.—Prairie Farmer.

fe 2t CAREY & HART.

POUDRETTE—A NEW ARTICLE.

IMPROVEMENTS of such a nature have been made in the manufacture of POUDRETTE, by the *Lodi Manufacturing Company*, near the City of New-York, as to warrant the opinion that it is the *cheapest and best Manure* now known and in use. By experiments which have been made, it has been proved that its *fructifying powers have been greatly increased, its operation upon vegetable matter quickened.* It will obviate the effects of *severe drought*, and will retain its fertilizing qualities much longer than any Poudrette heretofore made. It will ripen Corn in 65 days fit for use. The price will be reduced the following season as follows: At the Factory it will be sold in bulk at the rate of 25 cents per bushel. It will be delivered at any wharf or place in the City of New-York, *free of cartage and other expense*, at the rate of $2 for one barrel, which contains 4 bushels; $3,50 for 2 barrels; $5 for 3 barrels, and $10,50 for 7 barrels, and at the rate of $1,50 per barrel for any greater quantity. Persons wishing the article will please give notice in due season, as the orders will be fulfilled in the order of time received. The Company was incorporated in February, 1840, for 30 years by the Legislature of New-Jersey. No liability to stockholders beyond their subscription of $100 per share. *A few shares* of what is called the "*Reserved Stock*," remain to be be subscribed for, which the Company guarantee shall pay a dividend of 50 bushels of Poudrette a year on each share, as authorized by the Charter. A pamphlet containing instructions for its use, and all other necessary information, is in preparation, and will be sent *gratis*, to any person applying for it, post-paid. Agents have been or will be appointed in most of the important places in the Northern and Eastern States, to whom persons may give orders. Where there is no agent, please direct to "*The President of the Lodi Manufacturing Company*, No. 43 Liberty-street, New-York," and it shall receive immediate attention. Please refer to the Letter of Mr. Kentish, in the March number of the CULTIVATOR. New-York, Feb. 15, 1844.

FRUIT TREES.

THE subscribers are now ready to receive orders for superior Trees, viz: Apples, Plums, Pears, Cherries, Peaches, &c. &c., from their new nursery. Trees are all warranted in a healthy condition, and true to their sorts. Orders are entered on the order book, to be forwarded as soon as practicable in the fall. Orders respectfully solicited, and will receive prompt attention. WILSON, THORBURN & TELLER.

☞ A liberal discount made to those who purchase to sell again, or by wholesale.

Orders left with WILLIAM THORBURN, Seed and Agricultural Repository, No. 38 Broadway, Albany, will be promptly attended to. *Albany, April* 1, 1844.—2t.

GREAT IMPROVEMENT IN HUSSEY'S CORN AND COB CRUSHER.

IT is believed the Corn and Cob Crusher, invented and manufactured by the subscriber, in Baltimore, for the last two years has taken the lead of all others. Whatever its merits may be, the machine is now pretty well known, and will still be made in its usual form and kept for sale as heretofore.

The chief design of this advertisement is to introduce to the notice of farmers, a cheaper, and in some respects a better article, which has just been completed and proved. It requires much less power, and crushes and grinds much faster than the others.

The price, including extra grinders, is $25; a machine working two sets of grinders is $35; one with three sets, for water power, $45, including extra grinders for each set; all made in a substantial manner and warranted as advertised.

Orders for Hemp Cutters and Reaping Machines should be sent to the subscriber as soon as possible, so that none who design having such machines be disappointed at harvest time.

Baltimore, Md., March 15, 1844.—3t.* OBED HUSSEY.

AMERICAN HOTEL.

ALBANY.

THE subscriber begs leave to announce to his friends, old patrons, and the public in general, that he has taken a lease for a term of years, of the American Hotel, No. 100, State-st., Albany, which he hopes to have in readiness for the reception of company in all the month of May ensuing.

The House will be closed for a time, in order to renovate and put it in complete repair, and will be newly furnished from the garret to the cellar. In the quality and neatness of the beds, cleanliness of the rooms, he is determined not to be excelled by any other House in the city; and if a table, well spread with the substantial viands and luxuries of the season, will be any inducement for patronage, he hopes to claim a share.

In location, the American has many advantages; being situated in the centre, and in one of the most beautiful streets in the city; within a few moments walk of the eastern and western Depots, and the landing of the steamboats; about midway between the Capitol, City Hall, Public Offices, and the Banks, Post-office and business parts of the city.

The subscriber places much reliance on the countenance and support of the *Agriculturists* throughout the Union, who may visit the city, and pledges himself to spare no exertions to render their stay agreeable, should they favor him with their company.

Three Hills Farm will be carried on as usual under his own supervision, by a careful manager; and the breeding and rearing improved stock will be continued as heretofore.

April 1st, 1844.—1t. C. N. BEMENT.

WARREN'S IMPROVED HORSE POWERS AND THRESHING MACHINES.

THE undersigned continue to manufacture these celebrated machines with increased success and satisfaction; having by experience completely adapted them to the intended use of the farmer.

The many letters received from purchasers of these machines the last season, testify most unqualifiedly, that their performance is even better than our recommendations, and prove conclusively that they are not liable to get out of order if properly used; and that the two horse power and thresher, readily threshes in a thorough manner, on an average, from 12 to 15 bushels of wheat, and 25 to 30 of oats or barley per hour, and also that clover seed is threshed with facility.

These machines are simple and compact, and easily carried in a one horse wagon, (as their weight together is only about 600 lbs.) and only requires three persons to attend them, and the price of the Two Horse Power and Thresher is only $75.

The undersigned will also manufacture a superior Four Horse Power and Thresher, this season, of the same principle, to sell for only $100. The Two Horse Power alone is $50. The Four Horse Power will be proportionable as to price, the machihes always deliverable in this city for cash.

The threshing machine we usually make is the permanent beater, but if any prefer the spike thresher we can furnish a superior article at the same price. Our beater machine does not break the straw, but so throws it out that it can be readily gathered into bundles, and sold in the market when desired.

The Horse Power is very often purchased to be used in driving saws, small grist mills, cotton gins, &c . and has always answered the purpose desired, to entire satisfaction.

The undersigned take pleasure, therefore, in recommending these machines, as being what the great majority of farmers want and can afford to have. L. BOSTWICK & Co.

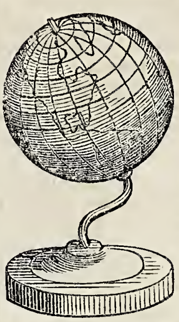
1t 146 Front-st New-York City.

TOBACCO SEED.

THE genuine *broad and narrow leaf Tobacco Seed*—the narrow leaf is about two weeks the earliest—for sale at the Seed Store of the Hartford County Agricultural Society, by

Hartford, Ct., March 15, 1844.—1t. E. W. BULL, Seedsman.

S. CORNELL'S DISTRICT SCHOOL GLOBE.



A BEAUTIFUL and cheap instrument, 5 inches in diameter, accompanied with a card of lessons illustrating the form of the earth, day and night, inclination of the axis of the earth to its orbit, change of seasons, difference of time in different parts of the earth, and the difference in the length of the day.

Owing to the peculiar construction of this globe, and the accompanying lessons, it is better adapted to elementary illustrations in geography, than any other now in use; and its cheapness renders it admissable to every school. It should be in every school and every family.

Manufactured by Silas Cornell, Rochester, State of N. Y., and retailed at $1,50. A liberal discount allowed to dealers. April 1.—4t.

DURHAM BULLS, DUKE OF WELLINGTON AND METEOR.

AS frequent applications are made by gentlemen at a distance for the use of these animals, to prevent applications by letter this notice is given.

These animals will be let to cows at $10 each; the money in all cases, to be sent with the cows, and paid to the subscriber. Wellington was bred by Thomas Bates, Esq., of England, and out of his prize cow, Oxford, celebrated as a milker. Meteor bred by Mr. Geo. Vail, of Troy, and out of his imported heifer, Duchess, and got by Wellington. Duchess was also bred by Mr. Bates, and got by his celebrated prize bull Duke of Northumberland. These animals are on Mr. Vail's farm, about two miles from Troy, and will be allowed to serve a few cows out of his own herd. Pasture for a short time may be had for cows sent, at the usual prices. Apply to the subscriber on the farm.

April 1, 1844.—3t. A. CLOCKIE.

IMPROVED EAGLE PLOWS,

MANUFACTURED BY

RUGGLES, NOURSE & MASON,

And for sale at the Manufactory in Worcester, Mass., and at their Agricultural Ware-house and Seed Store,
Quincy Hall, Boston.

A FULL *investigation* and *trial* of Plows was had in October, 1843, (occupying several days,) by an able committee of the Essex Agricultural Society, when seventeen plows were presented.

The committee in their report say, "In testing the quality of a plow, the *power* by which a plow is moved, the *ease* with which it is handled, and the *manner* in which it completes the work, are prominent points in consideration." And in speaking of the improved Eagle Plow, to which they unanimously awarded the highest premium, they say: "As near as we can ascertain, this plow combines all the good qualities manifested in either of the others with some peculiar to itself," and further, "our attention was particularly called to the *quality* of the castings on the plows of Ruggles & Co., their *finish* and *durability*. Their appearance certainly is more perfect than any thing we have elsewhere seen, the process of *chilling* the *points* the entire *edge* of the *share*, and *flange* or *base* of the *landside*, gives a permanence and durability to the work that renders it of a decidedly superior character," "and we think there is no hazard in saying, that the value of the parts thus made is more than doubled by the process."

At the same society's plowing match held at Andover, Oct. 3d, 1843, where there were *forty-four* competitors, *nine* of the *ten* premiums were awarded to plowmen using plows made by Ruggles, Nourse & Mason. At the plowing matches held in Massachusetts the same year, forty-three premiums were awarded to plowmen using plows made by R. N. & M., *twelve* of which were the highest premiums awarded in the counties of Essex, Middlesex, Worcester, Plymouth and Bristol.

SUB-SOIL PLOWS.

Among their great variety of kinds and sizes of plows, they have several sizes of Sub-soil Plows made in form like a genuine Sub-soil plow imported by them from Scotland. They have been thoroughly tested with great satisfaction as the increasing demand from all sections of the country testifies. The New-York State Agricultural Society in September, 1843, awarded their first premium to the Sub-soil plow made by Ruggles & Co., (presented by B. F. Smith, of Syracuse.) Prices, $6, $8, $10, $12, and $15.

Also, plows particularly adapted to the culture of cotton, rice, tobacco, &c., for the SOUTHERN STATES, of *style* and *quality* equal to those made by them for this section of the country.

At their warehouse may be found the most extensive and complete assortment of Agricultural and Horticultural implements to be found in the United States, embracing every tool used in the cultivation of the farm or garden. Also, a large and well selected assortment of field, grass, garden and flower seeds. All of which are offered at wholesale or retail, at prices which cannot fail to suit the purchaser

April 1, 1844.—1t

THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

VOL. I. ALBANY, MAY, 1844. No. 5.

THE CULTIVATOR
Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

SEVEN copies for $5,00—FIFTEEN copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "THE CULTIVATOR," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE FARMER'S MUSEUM,
(*Each no. containing 16 pages,*)
Is made up of selections from this paper, and published monthly at 50 cents a year—Fourteen copies for $5,00—Thirty copies for $10.

THE CULTIVATOR.

DEATH OF WILLIS GAYLORD.

A bright light has been extinguished in the death of our associate and friend, WILLIS GAYLORD. He expired at his residence, Limerock Farm, Onondaga county, on the 27th of March, in the fifty-first year of his age. An aged mother deplores the loss of a most devoted son, over whose fragile form she had watched with all a mother's tender care for more than fifty years—a brother and sister weep for one who had ever manifested for them the most heartfelt affection—and his friends, and none more than ourselves, mourn the loss of one, beloved alike for his genius, his faithfulness, and the happy temper of his mind; while the American farmer has to regret the sudden departure of one who has labored zealously and successfully for years to promote his interest, to enlighten his mind, and to elevate his calling to that dignity and respect to which it is so justly entitled. His death was sudden, and to his family, as well as to us, most unexpected. He was taken with a bilious affection of the stomach on the night of the 25th The next morning a physician was called in, and remedies were administered, which it was thought would afford relief. No alarm was felt, as no immediate danger was apprehended, till early on the morning of the 27th, when it was discovered that his life was rapidly drawing to its close. At 9 o'clock, thirty-three hours after the commencement of the attack, he sank gradually and gently into the arms of death without a groan or a struggle. He had been for more than thirty years a worthy member of the Presbyterian Church, and the hopes and consolations of the gospel had enabled him to endure, not only without a murmur, but with a buoyant and cheerful spirit, an amount of bodily suffering which falls to the lot of but few

Mr. Gaylord was born in Bristol, (Conn.) in 1792, and removed with his father's family to Otisco, in this State, in 1801. This town was then almost an unbroken wilderness, but three families having preceded that of Mr. Gaylord's father. Young as he was, the deep, dark and majestic forests, as he entered them, at the beginning of summer, made an impression upon his mind, and excited a love for trees, which was never effaced. He always spoke of them with enthusiasm. In a letter, written but a few weeks before his death, he says—"When we entered these forests, the heavy foliage wore its freshest green, and the elm, the maple, and the linden, were successively laden with flowers; and never shall I forget the rich, the indescribable perfume which filled the air as tree after tree was cut down, and day after day passsed away before the blossoms had ceased to exhale their odors from their withered cups." Deprived as he was, by this removal, at the age of nine years, of the advantages of even the District Schools of his native State, he was soon after visited with an affliction which prevented his reaping the benefits to be derived from the establishment of the similar institutions which are sure to rise up in all new countries, peopled by emigrants from New England. At the early age of 12 years, he was attacked with a violent rheumatic affection, which resulted in a curvature of the spine, and unfitted him, in all after-life, for any active or laborious pursuit. His innate love of knowledge, however, was such that no bodily infirmity or ordinary obstacle was permitted to dampen his ardor for its acquirement. Being unable to attend school, he studied such school-books as were to be procured at that early day, carefully noting such parts as he could not alone surmount, till he could obtain the assistance of some one who was able to solve his difficulties. He not only read with avidity, but *studied* all the books which came within his reach. He was remarkably fond of rural scenery, and when the weather would permit, it was his delight to sit for hours under the shade of trees, and cheered by the singing of the birds, pursue his studies with pencil and paper in hand to note the current of his thoughts. While thus engaged in the pursuit of knowledge, and in the enjoyment of such a degree of health as permitted him occasionally to engage in the lighter labors of the farm, he met with an accident, slight indeed at first, but which entailed upon him a vast amount of suffering, and rendered him almost as helpless as a child to the day of his death. It was occasioned by a fall, from which, at the time, he noticed only a slight bruise on the left arm. It afterwards swelled, and became a running sore, causing the decay of the bone and rendering his arm for ever after entirely useless. This affection of the arm continued for about a dozen years, and when it healed an abscess occurred in one of his sides, which continued, with occasional alleviations, till his death. Notwithstanding the pain he was thus obliged to endure for a long series of years, which was sometimes excessive, he was ever cheerful and happy; and even under the most acute suffering, was never known to utter a word of complaint.

At the appropriate season, if his health permitted, he resorted much to the woods and fields. A favorite retreat was the shore of one of those beautiful lakes which adorn the western section of our State; and there, enjoying the charming view and inhaling the refreshing breeze, his mind was at once soothed and strengthened by a contemplation of the varied phenomena of nature. His was that happy constitution of mind which finds

"Sermons in stones, tongues in trees,
Books in the running brooks,
And good in every thing."

"Disqualified by these calamities from labor or active physical habits," in the language of one who knew him well, "he devoted his mind to study; and although suffering under severe bodily affliction, deprived of the ordinary facilities for obtaining information, without teachers, and by the aid only of such books as he was enabled at that early day to collect, he became a ripe and sound scholar, and eventually one of the most able and powerful writers of our times. For more than twenty years he had been a regular contributor to many of the American Quarterly and Scientific Journals, and in several instances to some of the most popular Magazines in Europe. His contributions to the newspaper press of this country, on almost every variety of topic, literary, religious, scientific, miscellaneous, and occasionally poetry, have been numerous and of the highest order of excellence. As a writer on all of these varied subjects, whether we regard the beauty of his style, the chasteness of his diction, or the invariable accuracy of his facts, it would be difficult to find his superior.

"The versatility of his talents, the rapidity with which he wrote, and the great number of his productions, have excited alike the admiration and astonishment of his friends.

"But the most valuable part of his writings, and for which he will be longest remembered, relate to the passion of his latter years—practical and scientific agriculture. In these departments he was thoroughly versed, as his contributions, commencing in 1833, to the old Genesee Farmer and the Albany Cultivator, will abundantly attest. The services he has rendered to the farming interest of the country have been immense, and form a legacy which will endure to a late generation. He was eminently practical and judicious in all his views and recommendations, and possessed a happy tact in communicating his impressions to others. To the readers of the Cultivator, and to the agricultural community, his loss will be irreparable.

"Isolated and excluded as he was by physical infirmity and location, from a general intercourse with his fellow citizens, there are consequently but few who can justly appreciate his many social qualities. Thoroughly informed on almost every subject of general or individual interest, he was always ready, as it was his delight, to impart to others who sought his society, the rich treasures of his well stored mind. Those few and favored friends, will long and fondly cherish his memory. As a man. his philanthropy knew no bounds. He studied and labored emphatically for the benefit of mankind. As a friend, he was true and faithful; as a son and a brother, kind and affectionate. When a man of such gifted powers and universal acquirements, in the full maturity of his intellect, and in the midst of his usefulness, is cut down suddenly and removed from among us, we may in truth mourn a public bereavement."

We add an extract from a letter of H. S. Randall, Esq:

"Your associate and *our* friend, Mr. Gaylord, has joined the 'innumerable caravan' that people 'the silent halls of death.' How little was I prepared to hear it—or hearing, to realize it! The ink is scarce dry on the last letter I received from him! It was written in one of his most lively and felicitous veins, and closed playfully with the oriental valediction, 'may you live a thousand years, and your shadow never be less.' How little did he dream when writing it, or I when reading it, that the last sands of his own last year of life were so nearly run out!

"Mr. Gaylord was never in good health. To be free from *racking* pain was the nearest approximation to that boon ever vouchsafed to him. There can be no indelicacy now in alluding to that dreadful physical calamity which, in language which I borrow from one of his letters, 'cut him off from the great brotherhood of man.' This, superadded to constant and oftentimes intense suffering, would have driven an ordinary mind to madness, or morose and querulous misanthropy. Not so he. Strong hearted, meek and enduring, he raised his voice among the gay and happy, and he even catched their tone. In his last letter to which I have alluded, after discussing history and fiction, commenting on Alison, Paul d'Kock, Eugene Sue, &c., he speaks of life, man, the literature and events of the day, in the tone of one who has seen the world only on its sunny side—of one whose sky has never known the presence of a cloud. Such was the uniform tone of his letters.

"Of Mr. Gaylord's early education I know little. I infer from declarations in his letters, that he was what is usually styled a 'self-taught scholar.' His reading was literally boundless. He was as familiar with the natural sciences, history, poetry, and belles-lettres, as with agriculture, and nearly, if not quite as well qualified to discuss them. It was difficult to start any literary topic which you did not at once perceive had been examined by him with the eye of a scholar and critic. In one of my letters, half sportively, yet in a serious tone, I asked him 'what he thought of the German Philosophy?' In his answer, Kant and Fichte, and I think Schelling and Jacobi, were discussed with as much familiarity as most scholars would find themselves qualified to make use of in speaking of Locke, or Stewart, or Brown! In commenting on that report of mine, (on Com. School Libraries,) alluded to by him in the last Cultivator, he betrays an extensive knowledge of parts of the literature of nearly every nation in Europe.

"As a writer, the public have long been acquainted with Mr. Gaylord. He wrote on nearly every class of topics connected with human improvement; in papers, magazines, and not unfrequently in books. But it is as an agricultural writer that he is best known. Here, taken all in all, he stands unrivalled. There are many agricultural writers in our country who are as well or better qualified to discuss a single topic, than he was. But I deem it not disrespectful to say that for acquaintance with and ability to discuss clearly and correctly every department of agricultural science, he has not—he never has had an equal in this State. He was every way fitted for an editor. Placable and forgiving in his temper, modest, disinterested, unprejudiced, never evincing a foolish credulity, above deception, despising quackery, with an honesty of motive that was never suspected, his advice to the farmer was sound, discriminating and safe.

"Mr. Gaylord's style as a writer, was peculiarly chaste. intelligible to the meanest and most illiterate capacity, it charmed the scholar by its grace, its perspicuity and its flexibility. It was marked by an utter destitution of all meretricious ornament. As has been before said, he was essentially a modest man. His most decided convictions were expressed without dogmatism or assurance,, and his suggestions came as from a fellow-learner, rather than from an instructor. In epistolary writing he was peculiarly felicitous. With him I had corresponded for years. There is a charming simplicity and freedom from assumption in his letters, and he had the rare and happy faculty of discoursing on elevated subjects without stiffness—on learned ones without pedantry. His extensive correspondence, were it collected and published, would form a valuable volume; infinitely more so than many highly extolled similar publications. Such a collection, with a selection from his other writings, and a memoir of his life, should be published, and placed in every agricultural library."

At a meeting of the friends of Agriculture, held in the State Agricultural Hall, on the evening of the 29th March, John P. Beekman, Esq., President of the State Agricultural Society, announced the decease of Mr. Gaylord in the following just and appropriate language:

The President said that he had just received intelligence which would be heard with regret by every individual familiar with the agricultural movements of the times. The mail just arrived from the west announces the death of Willis Gaylord. The judgment of every intelligent farmer in the State will respond to the assertion that to no man whatever—excepting perhaps Judge Buel—is the agriculture of the State more indebted than to Mr. Gaylord.

The character of Willis Gaylord was in all respects what might be expected from his writings—benevolent, enlightened, elevated—yet plain, practical, unassuming. His character may well serve as a beacon-light not only to farmers, but to men in all conditions of society. Without any advantages of early education—debarred even, by physical infirmity, from many opportunities which others enjoy for self-improvement—he conquered all obstacles by unflinching perseverance in pursuit of knowledge. His acquirements as a man of science, evinced by his writings for literary and scientific journals as well as for the 'Cultivator,' would reflect credit on many who enjoyed the advantages of collegiate education. And those acquirements were of the progressive character—every day of his useful life being marked not merely by the exercise of his versatile talent on the multifarious objects embraced by agriculture and the domestic arts, but by advancing steadily in the acquisition of knowledge from the various departments in the wide range of science. It would be sufficient, indeed, to say of him, that, as senior editor of the 'Cultivator,' he had proved himself every way worthy as a successor of the lamented Buel.

Like Buel, also, Gaylord was cut down in the maturity of his intellect—in the very field of his fame—cut off suddenly, too, as Buel was—precluding even intimate friends from the privilege of soothing his dying hours—so suddenly was death consequent on the commencement of the fatal disease.

When the President concluded his remarks, of which the foregoing is a mere outline, the following preamble and resolutions were unanimously adopted:

Whereas, This meeting of the friends of Agricultural improvement have heard with deep regret of the recent and sudden death of Willis Gaylord, of Onondaga, senior editor of the 'Cultivator'—well known to the Agricultural world for the versatility of his talent as a writer on subjects essential to the interests of Agriculture and the Domestic Arts:

Be it therefore Resolved, That in testimony of respect for the memory of this distinguished friend of Agriculture, this meeting do now adjourn; and that copies of these resolutions, signed by the officers of this meeting, be enclosed to the bereaved family of the lamented dead, in testimony of our sympathy in their affliction.

Resolved also, That these resolutions be published in the newspapers, as a mark of respect for the memory of the departed.

NEW PUBLICATIONS.

Rnport on the Commencement and Progress of the Agricultural Survey of South Carolina, for 1843, *by* Edmund Ruffin, *Agricultural Surveyor of the State.*

South Carolina has at last entered in earnest, as we trust, upon the development of her great agricultural resources; and one of the first steps was the appointment of Mr. Ruffin, well known as the former editor of the Farmer's Register, and the author of the most able work on calcareous manures that has yet appeared in any country, to make an Ag. Survey of the State. He entered upon his duties in 1843, and we have his first Report before us in a pamphlet of 170 pages. An examination of it, fully confirms us in the opinion formed and expressed by us, that the selection for surveyor was a most fortunate one.

The first object of Mr. Ruffin, in entering upon the practical part of his office, was to determine the existence and extent of the calcareous, or marl and limestone formation of the State, as upon the presence of calcareous manures he considered the improvement of the extensive sandy pine lands of the State to be mainly depending. His experience in the use of marl in similar districts in Virginia, led him to anticipate similar favorable results still further South; and the general sameness of the geological formations of the whole Atlantic coast south of the Delaware, or even the Hudson, induced the belief that the marl districts further north, extended to the shores of the Gulf, and furnished the means of rendering fertile those vast districts of sand which, in the south, have long seemed doomed to hopeless sterility. Besides, if Mr. Ruffin can be said to have any agricultural hobby, it is the overshadowing importance of calcareous manures, in any system of cultivation; and the effects he had witnessed in Virginia, would almost justify him in attributing a paramount influence to this auxiliary of fertility.

The extent and magnitude of the marl beds in the lower part of the State, and the presence (unsuspected in many instances,) of abundance of lime rock in the upper districts thus far included in the survey, exceeded the most sanguine expectations of Mr. Ruffin. What he has termed the "Great Carolinian Bed," is a formation of great extent, showing itself on the tide waters of most of the rivers, and having an unknown thickness. In boring for water near the Medical College in Charleston, it was penetrated about 340 feet, without any signs of its termination; and some of the bluffs higher up the river, show an exposed perpendicular surface of 60 or 70 feet. Of course the greatest facilities are offered for the loading of the marl in boats, or vessels, and transporting it to any point wanted. The richness of the marl in calcareous matter, is surprising, ranging in the several strata from 40 to 94 per cent; the latter only requiring induration to make excellent limestone.

Not the least singular feature of the calcareous deposites of the south, is that called the gigantic oyster bed strata, which stretches from Shell Bluff on the Savannah, nearly or quite across the State. There are two kinds of these mammoth oyster shells, of which specimens were collected by Mr. Ruffin; one measuring 8 or 9 inches in length by 6 or seven in width; and one 13 or 14 inches long, but not more than 3 inches wide. Bartram, who visited Shell Bluff in the last cenury, describes some of the shells as 20 inches long, 8 wide, 4 inches thick, and deep enough to receive an ordinary man's foot. These would certainly be respectable oysters, compared with the degenerate ones that tantalize oyster eaters in these days; but even these, large as they are, would shrink into insignificance placed by the side of the one sent from the East Indies, and which forms the baptismal font of Notre Dame, in Paris.

We have not space to follow Mr. Ruffin through his statements of the preparation and value of marl; his suggestions as to its use on rice lands, and his account of the culture of that important product of Carolina; or his account of the best methods of burning and using lime. We may recur to this part of the report again, and furnish the cuts of the lime kiln given by Mr. Ruffin. We again tender our thanks for our copies of this Report, and shall look with much interest for those which we understand are to follow the present one.

Observations on Vegetable and Animal Physiology. By Wm. L. Wight, *M. D., Petersburg, Va.*

This is a pamphlet on an important subject, and one on which much light has within a few years been thrown by the advance of chemical science. The object which the writer proposes to himself is "to arrange the phenomena which are invariably connected with organization, and which are designated by the general term, *life*." In doing this, he has endeavored "1st, By a cautious induction to advance to the general principle which controls and directs the series of actions connected with the growth and nourishment of plants." And 2dly, "To show that this same law, through the instrumentality of organs and agents adapted to each exigency, presides over the higher and more complicated phenomena of animal life."

This general principle or law, he finds in electro-magnetism, and the arguments and facts by which he supports his opinions, are worthy of the attention of every inquirer into the operations of nature. The analogies between the organization and nutrition of plants and animals, has been too often overlooked, and Liebig has rendered an essential service to the cause of science by calling attention to the matter. The manner in which Dr. W. explains the action of his governing principle in the production or determination of many diseases, shows a careful consideration of the whole ground, and is worthy a philosophic inquirer after truth. The field of investigation here entered upon is ample, and we trust will not want explorers.

Scotch Guano.—A plentiful deposit of this rich manure, it is reported, is found on some of the northern islands of Scotland, which will probably supercede that hitherto brought from the Pacific.

CONDENSED CORRESPONDENCE.

Sheep and Wool.—Mr. John Johnston of Geneva, says he has read with a great deal of pleasure, the remarks of Mr. L. A. Morrell, on the subject of sheep and wool. In allusion to Mr. Morrell's observations on the practice which prevails in Scotland, of smearing sheep with a mixture of tar and butter, Mr. J. says it is not usually done immediately after shearing, but in October or November. Mr. J. says he has worked at the business for a month together. He thinks more sheep may be safely kept together than Mr. Morrell recommends—says he has frequently wintered over 600 in a yard not more than 150 feet square, and always had them in good condition—but he took good care to keep them well littered with straw. He has kept 400 in the yard alluded to, this winter, and has lost none. His sheep were fat when winter commenced, and are fat now. He lost an ewe from the premature birth of a lamb, and took 17 pounds of tallow out of her; last spring the same ewe had 7 pounds of *clean wool.* He objects to Mr. Morrell's mode of castration, and would like to show him the Scotch mode. He says he knows he should stand no chance in a controversy with Mr. Morrell upon their trifling differences of opinion. He says, "I was born the son of a shepherd, on the mountains of Scotland, was myself bred a shepherd on the very *summit* of Scotland; and there received only an education which even at that time was thought barely sufficient for a boy that was intended for nothing else but to earn his living by the sweat of his brow; but having thus been a keeper of sheep from my youth till the number of my years is now more than two score and ten, I trust I know something of the habits of those animals and their management. I have kept sheep here, more than 20 years, and I believe were the Scotch and English farmers to lay out the money for grain to feed their sheep, which they now expend for tar and butter, it would do their sheep more good than sheep-salve. Highly fed sheep need no smearing."

Rye.—R. L. Pell, Esq., Pelham, Ulster Co., says:—"I raised a crop of rye (secale cereale) last season, weighing sixty pounds to the bushel, in the following manner: On the 1st of September, the grain was placed in a vat of water, mixed with salt to a sufficient consistency to float an egg, and the light seeds were taken off with a skimmer. After the grain had remained in the brine ten minutes, it was drained through a sieve, mixed with *lime, charcoal dust, poudrette* and *ashes,* in equal quantities, and immediately sown at the rate of three bushels to the acre on a clover ley which had been well plowed and harrowed; the crop was cut in the milk on the 11th of July, and housed on the 18th. If left until dead ripe, a rain of three days continuance will cause it to sprout; and if sown when the ground is filled with moisture, nine times out of ten it will rot."

Value of Straw.—Mr. Pell further says:—"Farmers should on no account part with their *wheat* or *rye straw,* as fields may for years be kept in heart, by merely returning the *straw* to them; it contains all the substances requisite for a succeeding crop of grain. By Sprengel's analysis, 1,000 lbs of wheat, leaves 11.77 lbs., and the same quantity of wheat straw leaves 35.18 lbs. of ash; of the straw ash, 28.70 lbs. are silica, without which substance, it is impossible to grow either wheat or rye. In 1,000 lbs. of rye, there is 10½ lbs., and of the straw, 28 lbs. of ash; 22.97 lbs. of which is silica, showing plainly that the agriculturist may sell the grain, but on no account the straw, which contains by said analysis, *chlorine, phosphoric acid, potash, lime, sulphuric acid, silica, alumina,* with a small portion of *iron, magnesia* and *soda.*"

We give the four following paragraphs from a communication signed "*Jonathan,*" from Burlington, N. J. The necessity for condensing, alone prevents us from giving his letter at length. The allusions are to articles contained in our Feb. number:

Timothy Hay.—Our Kentucky friend is not much "too severe on Timothy hay." The writer has for many years, had ample opportunity of proving the comparative value of timothy hay, with other kinds of winter food for cattle; and has found it when mowed at *any* time, inferior to most other kinds, and in fact, not worth as much per ton as the bright straw of our small grains. As a grass for pasture, it is not early in its spring growth, easily effected by the drouth and by early frost, and the after harvest produce is quite light. As regards the time of cutting it, (or any other grass,) I much prefer it being done just before the blow appears. The leaves and stems of the plant are then fresh, bright and nutritious, and the quality of the hay superior; and the after growth of grass will generally be much more, and the sward much more safe from the destructive effects of drouth. Red clover and herds grass are certainly much better for pasture or hay. The tap roots of the former, and the thick mat roots of the latter, make a better sod for plowing; or if to remain for pasturing and mowing, it will certainly be found to produce at once a more valuable crop for consumption, and to be followed more readily by the best natural grasses. If the object is to *sell* hay, cultivate what will bring the best returns of course.

To destroy Peppermint.—As suggested by you, D. T. Whitmore must have his meadow land sufficiently dry for the growth of good grass; and then in the latter part of October, plow flat about five inches deep; pass a roller over it; then in the spring, sow thick with oats, harrowing them in; and after harvesting them, sow buckwheat and again harrow. In the following spring, cross plow the same depth as at first; roll and harrow thoroughly, putting on a thin sowing of oats and a thick sowing of grass seeds. If the sward should not appear sufficiently decomposed when the second crop of oats is to be sown, keep it an open fallow by frequent harrowings, and perhaps a light plowing, until say the first fall month; when put on the grass seed and a thin sowing of buckwheat; the latter will spring up and shade the young grass from the injurious effects of the hot sun. Not an unimportant part of the process is, to give the ground about the time of putting on the grass seed, a coat of barn yard scrapings or well decomposed manure; by these means, the expense will probably be met, or in a great measure by the returns of the oats and buckwheat crops; and the ground placed in nice order, free from the intruder. If the ripening of the oats to be sown first, should be too late for the proper sowing the buckwheat, it can be cut when first out in head, and make a fine lot of excellent hay. It is important during the first year, that some crop should be kept growing, so as to smother in a great measure, the growth of the mint that has not been killed by the winter.

Reflection.—We want emphatically more reflection, more careful examination into things; and not allow ourselves to conclude what will do well in one place, will necessarily do well in another, without considering the difference that climate, soil and many other things reasonably make.

Manures.—"First year at Farming" will probably find that the top dressing of manure will speak well next year and years to come. Let us hear from him after the first of October next. Use the manure if but one is to be applied; if both, experiment as suggested by the editors, but with only twenty or twenty-five bushels per acre.

Cleaning wheat from impurities.—A correspondent who signs "Frock & Trowsers," says a good plan to clean wheat from impurities, such as chess, smut, &c., is to pass it through a good fanning-mill. He says his practice "is to remove all the sieves from the mill, put the screen in its usual place, and put the board that sometimes occupies the place of the screen, in the groove intended principally for the corn-sieve, slide it up just far enough to give length sufficient to the shoe, so that when the mill is in motion, and the wheat falling from the shoe, it will strike within about two inches of the upper end of the screen; it will then have a chance to run the whole length, and get rid of the cockle, dirt, kernels of smut, chess, &c., and if proper care be taken not to let the wheat through too fast, the wheat will be found at one end, its *bad company* all at the other."

Culture of Tea in America.—A correspondent signing "H. R. Americus," says:—"Nothing can be more certain than that our country is exactly suited to the culture of the tea plant, and is destined at no very distant period, to be one of the greatest countries for this production in the world." The reasons he gives for this opinion, we are in the same latitude as the best tea countries of China—that our soil is similar, and its natural productions the same. He thinks the ingenuity of our countrymen would soon enable them to understand its cultivation and the mode of curing it, as well or better than it is done by the "stupid Chinese." He suggests that some of our wealthy capitalists commence a trial of it.

HAMS.—Mr. G. Butler of Clinton, N. Y., made an experiment to ascertain whether hams gained or lost in curing. He took four hams, that when ready for pickle, weighed 115 pounds; after lying in pickle six weeks, they weighed 125 pounds; when smoked, they fell back to their original weight. He made a former trial, which did not vary materially from this.

THRESHING MACHINES.—We are informed that Mr. T. D. Burrall, of Geneva, N. Y., manufactures excellent threshing machines, which will answer for from four to eight horses, at $140 each. He is also making a new one, which it is said will be a great improvement in many respects, the price of which will be only $80.

K. L. ON TURKIES.—Your correspondent K. L. says very little, if any, Indian meal should be given to young turkies; but he omits to state what their food should be. As, within the range of my observation, Indian meal made into dough, is the principal food of young turkies, I should be pleased for one, to know what substitute for it K. L. would recommend. Would he recommend them to be confined during the season of incubation, and through the period of nursing while the young is yet small, to the *poultry yard;* or does he let them go at large in search of food for themselves, while sitting, and for their young when hatched, only keeping them up until the dew is off the ground? Some of these questions may have been anticipated in his previous communication, which I have not before me; but I hope he will instruct us at least as to the *best kind of food.* J. S. S.

TURNING IN WEEDS OR OTHER GREEN CROPS WITH THE PLOW.—In plowing stubble grounds, the weeds frequently choke the plow, and it is found difficult to bury them entirely. The same difficulty attends the plowing in of clover, or buckwheat, &c. Various contrivances have been adopted to obviate this trouble. Some fasten one end of a chain to the plow-beam, and the other end of the off-end of the "double-tree," as it is called; which being thus dragged along before the plow, bends down and draws forward the weeds in such a manner that the plow turns them fairly under. Plows have also been made very "high in the beam" to obviate the difficulty of choking. They are called "Crane plows," and are much used in western Virginia and southern Ohio.

Mr. Sidney Weller, of Halifax, N. C., informs us that he uses a very simple instrument for the purpose above named, and which answers better than any other plan he has seen. He says: "It is merely a sufficiently heavy piece of wood, like a common rake-head, with a few short teeth therein, and short handles at each end; to the end of which handles, ropes or small chains, put through holes, fasten the instrument to the end of the whiffle-tree, if a single-horse-plow, or to some part of the two-horse-tree, if a two-horse-plow. This instrument straightens and levels down the weeds, &c., immediately under the plow-beam, and before the furrow-slice. It answers with us every desired purpose."

BLACK-SEA WHEAT.—Mr. S. N. HAWES, of Shoreham, Vt., writes us that from his acquaintance with the Black-Sea wheat, he can recommend it as being superior in hardiness and productiveness, to any other variety of spring-wheat he has known. He says there is a spurious kind sold as Black-Sea wheat. The difference in the true and spurious kinds, he describes as follows: "The true kind may be known by its unusually sturdy and thrifty appearance in both stalk and head; is of one pure kind, with dark-red chaff, and tillers more than any other kind I have known; frequently producing ten stalks from a single grain, and it is conceded by the best grain-growers who have tried it, that a bushel is sufficient seed for an acre. The spurions is a mixture of two kinds in about equal parts; the one bearing a partial resemblance to the true kind, but compared with that is far inferior both in length and size of stalk, head, and berry. The other part of the spurious sort has a white chaff; the stalk and head about medium size, with a berry longer and more slender than either its associate or the true; and it requires the same quantity to seed an acre that is required of other kinds of spring-wheat; that is two bushels. Hence those on whom it is palmed off, frequently lose their first crop by only half stocking their land."

DAMPNESS IN BRICK WALLS.—In answer to an inquiry heretofore published in the Cultivator, Mr. D. TOMLINSON says:—"I have no doubt that if *hard burnt bricks*, such as are used for paving side-walks in our streets, and are water-proof, are laid on the outside course, in mortar made of water-proof lime, they would not absorb the rain and become wet. All walls, even wood, exposed to severe frost, in very cold weather, will become wet on sudden changes to warm south wind, by condensation of the moisture in the air, they being colder than the air in contact. In the city of New York some brick houses, whose gable end is exposed to the N. E. rains, have been covered with weather-boards, to prevent the rain from falling on the brick walls. Some of the cellars in Pearl and Water streets in that city, are flooded by the high tides. The corner store, on the east side of John street, at the head of Burling Slip, I have observed to be lined, both sides and floor, with boards, calked with okum, and covered over with pitch, to exclude the tide. Hard burnt, water-proof bricks, laid in mortar of water-proof lime, would have been much more durable, and would shut out water."

CARROTS.—Mr. HENRY WESTON, of Rensselaer, Indiana, says:—"Are you aware that carrots may be left, like parsnips, through the winter with impunity? They seem to undergo no material change. I think it a very important fact; for they may be left in the ground as they grow, and after turneps are consumed in spring, they will be found admirable in aid of the young grass. I mention it, supposing the fact may possibly have escaped your observation; knowing that in N. Y. carrots are always buried or housed in fall."

INQUIRY.—MR. H. HULL, of Columbia county, N. Y., states that he intends to plant corn this season on two fields; one a light gravel, the other a retentive heavy soil inclining to clay; and he asks "which of those fields will be benefitted by a compost of plaster, lime, leached and unleached wood ashes?" He also inquires "whether the compost had better be applied in the hill at planting time, or around the plant after it is above ground?" We should expect the greatest benefit from ashes on light land, and so far as our observation has extended, the effects of plaster have been less favorable on gravelly land than on clayey or loamey; still, we do not believe that any positive rules can be laid down for the application of plaster; its operation is very various in different locations, and evidently depends on causes not yet discovered. We should prefer proving the efficacy of that substance and lime, by a small but careful experiment in the first place, and having done so, should feel more confidence as to what course to pursue. We should use the compost alluded to, either on or near the surface, and should not be very particular whether it was applied with the seed or around the plant soon after it made its appearance above ground.

NUT GRASS, OR BITTER COCO.—A subscriber at Havanna, Greene county, Alabama, wishes information on the subject of destroying this plant. Not having any acquaintance with it, we are unable to furnish such information. We cannot find any thing more definite on the subject than he will find in the Jan. and Feb. Nos. of the Cultivator. We should feel obliged if any of our friends will tell us of a good mode of destroying it. By a communication in another part of this number, it will be seen that salt is recommended for this purpose, to be sown at the rate of 40 or 50 bushels per acre.

THE SEASON.—Extract of a letter from O. PHELPS, Esq., dated Canandaigua, April 17—"The season, thus far, is very favorable for the farmer, and the winter grain on the ground, in this vicinity, never looked more promising and encouraging at this season of the year. If nothing injures it hereafter, we shall have a great crop of wheat."

AGRICULTURAL SCHOOLS.

We have so often urged the importance of having agricultural schools established in our country, that nothing but the full conviction that such institutions are essential to the prosperity and complete success of this most important branch of industry, could induce us so frequently to press the subject upon the attention of the readers of the Cultivator. We are glad to find the matter agitated in various quarters; the legislature petitioned upon the subject; and individuals beginning to enquire into the practicability and advantage of such establishments.

It is certainly one of the most important enquiries that can be made by the man of wealth, in what manner, and to what end he shall educate his sons to usefulness. He cannot look around him without having the startling truth forced upon his notice, that a large portion of the sons of such men are from their youth among the most vicious and worthless part of the community. If he has the feelings of a parent, he will be anxious by providing them with some means of employment, to prevent the ruin consequent on idleness. Shall he force them into what are termed the learned professions? These are already so filled that no little ingenuity and skill is required to devise the ways and means of so taxing the community for their support, as not to drive the producing classes into open revolt; and there are clear indications that but a little more of this kind of pressure would be required to produce such a result. The spread of intelligence, the universality of education, and the consequent expansion of individual mind, will of course do away much of the necessity which has existed for the toleration and use of these classes, and of consequence create new reasons for providing the young with other means of living. Under any circumstances, what greater benefit could he confer on them, than to make them intelligent, practical, hardy cultivators of the soil? This is a matter on which the man of wealth should reflect.

Such schools are not less important to the common farmer, who has sons to educate. It is idle to complain that the farmer has not his proper standing in the community. The fault is his own. Intelligence, science, general knowledge, always is felt, and in a community like ours, where men make or mar their own fortunes, no man destitute of such acquirements, has a right to expect success. Wealth may give a man power; but the power of Xerxes or the wealth of Crœsus, cannot command respect. This belongs to talent, to the mind, to worth; and what situation in life is more favorable to the development of these, than that of an independent, well educated farmer? A great change has come over the opinions of the world, on the important query, of what constitutes the man? and i remains for the laborer, the producer, the farmer and the mechanic, to see that the light now breaking, spreads and brightens, until all notions of a distinction of classes, other than such as depends on position, or the will of the individual, shall be found to have no existence in nature or fact. To the farmer then, agricultural schools are the means by which he can more readily qualify himself for more extended usefulness; bring science at once to bear on his favorite pursuit; and effectually do away the reproach once so common, that of all classes of society, the tiller of the soil is the most contented to be ignorant.

It has been the custom to envelope the subject of an agricultural school in a mass of matters, most of which have little connection with the subject, or which if found desirable, may be connected at any time. The public has been taught to look upon such a school, as it does upon Yale, Harvard, or Union; establishments costing thousands, if not millions; crowds of professors, and all the paraphernalia of pedantry and literary lumber. We have not a doubt, if the shadowy outline of such a magnificent establishment, had not been held up as what was wanted for an agricultural school, if the idea had not prevailed that hundreds of thousands of dollars would be required to put one in successful operation; if in the charters which have been granted looking to such institutions, moderate sums had been named, that long ere this time, we should have had more than one such school in successful operation. If we had relied more on individual effort, and less on legislative aid, and followed the example set at Hofwyl and Templemoyle, there can be no good reason given why we could not have had such schools here, or why there should not be in the vicinity of all our cities and large villages, farm schools, where the most thorough practical education, would be combined with a scientific and fully practical knowledge of agriculture, and many of the most useful branches of mechanics.

We have never advocated show in such establishments; utility is what is demanded. Industry, the means of obtaining an honest livelihood, by personal, honorable labor, is what we want at such a school; and all expenditures that do not contribute to this end, are worse than useless. Two or three hundred acres of land properly constituted and situated; good dwelling and farm buildings; a competent person to act as instructor in the sciences required to be understood or used for illustrations in teaching, such as chemistry, geology, botany, &c.; a farmer, practically acquainted with his business in all its branches, to superintend the out door operations, and a collection of such agricultural and mechanical implements, as would be required in the management of such a farm, would be sufficient for a commencement. The library, the cabinet, the laboratory, for all useful purposes, at the outset need not be costly or extensive; and as the demand increased, the means of enlargement would also accumulate. What is there to hinder any man, where such a school is wanted, who can command the requisites we have named, from opening such a school? True, he must be known, the public must have confidence that what he undertakes he can perform; men will not trust their sons in the hands of the incompetent, or willingly consent to remunerate mere pretenders, for their labors. The less of show and ostentation there is about such establishments, the more simple and family-like they are in their arrangements, and the less expense incurred in the course of education, always supposing it to be *practical and thorough*, the better it will be for all, and the more likely will they be to succeed.

If it is necessary that a small appropriation be made by the state, to put in operation such a school, as a pattern school, we think the money would be wisely expended; but we would rather see such institutions started and supported by individual energy, intelligence, and liberality. It gives us great pleasure to state that the Elm Crag Agricultural School near Nashville, under the care of Mr. Fanning, is fast progressing in public favor and usefulness; and we think with such examples as that, and those we have before named, no one need to doubt that a school in our midst, properly organized and managed, would be eminently successful.

CHARCOAL AS MANURE.

We have received a letter signed "*Long Island*," commenting on some remarks made by Dr. Lee, on charcoa as a manure, and noticing also a statement in reference to Mr. Pell's experiment on the same subject. (See Feb. No. of Cult.) Want of room prevents our giving the whole of the communication, but the following extract shows a fair view of the writer's ideas. After alluding to Dr. Lee's statement, to show that in the case in France, referred to by him, *lime* was used *with the charcoal*, and having also mentioned that Mr. Pell used 52 bushels of charcoal and 300 bushels of oyster shell lime, the writer says:—"At about the same time these articles caught my attention, I had been reading "Familiar Letters on Chemistry by Dr. Liebig," who teaches a different doctrine on this subject, the value of ammonia. In letter XV, page 51, is the following: 'Nothing can be more certain than the fact that an exportation of nitrogenized products does not exhaust the fertility of a country, inasmuch as if is not the soil, but the atmosphere which furnishes its vegetation with nitrogen. It follows consequently, that we cannot increase the fertility of our fields by a supply of nitrogenized manure, or by salts of ammonia, but rather that their produce increases or diminishes in a direct ratio with the supply of mineral elements capable of assimilation.' And in the same letter, page 52, he adds, 'The effect of an artificial supply of ammonia, as a source of nitrogen, is therefore precisely analogous to that of humus, as a source of carbonic acid—it is limited to a *gain of time;* that is, it accelerates the development of plants.' In the above letter, Dr. L. has spread out the testimony from which these conclusions are drawn. In letter XVI he says 'my recent researches into the constituent ingredients of our cultivated fields have led me to the conclusion that of all the elements furnished to plants by the soil, and ministering to their nourishment, the *phosphate of lime*, or rather the *phosphates* generally, must be regarded as the most important.' In referring to Dr. Lee's statement respecting the use of charcoal in France, you will observe that he speaks of it in connection with the use of *lime*. Also, Mr. Pell used upon his wheat field 300 bushels of *oyster shell lime* to the acre, besides the charcoal. I think therefore, the question very naturally arises, is it the charcoal or the lime to which this increased fertility is owing? Dr. Liebig would answer emphatically the latter, and if the two examples stated stand alone, we have no evidence to gainsay his assertion. We know oyster shells to be especially rich in phosphates, and we know too, that what are called Indian lands, lands upon which the Indians held their clam bakes, are esteemed the most fertile and least easily exhausted soils. Further investigation therefore seems necessary. Nothing can be more clear than the importance to farmers of definite ideas on all subjects connected with any improvement in the management of their farms; to waste their energies on this or that project, without advancing, is to insure inattention to future suggestions. Let the experiment of charcoal and lime be made side by side, the results carefully noted, and given to the world. By a dozen such experiments, we should at least approximate more nearly to the truth."

THE WINTER—EFFECT ON THE WHEAT CROP.

There are two ways in which our severe winters operate unfavorably on our winter sown wheat; the first is when there is an excess of snow covering the fields deeply for a long time, and melting off gradually in the spring, forming a mass so close as to exclude the air, and produce what may be called the suffocation of the plant. When wheat is affected in this way, it appears of a fine green as soon as the snow disappears, but a few hours exposure to the sun and air changes this appearance to a dark color, and it is soon evident that the plant is dead, root and branch. The wheat plant does not, however, so often suffer from this cause, as from the second, which is generally called winter-killing, though it is well known more injury is done in March and April than in the winter months proper. Wheat on soils that contain an excess of water, and of which clay is a prominent ingredient, suffers much from freezing out; and this is done after the snow diappears, and the earth gives under the influence of the sun during the day time, while it freezes at night, and sometimes severely. By this repeated process of thawing by day and freezing by night, the wheat roots are drawn from the soil, and death is the natural result. The loss from this cause alone is millions annually. The true remedy is draining.

The past winter must be considered a favorable one for the wheat crop. The depth of snow was much less than usual; and the steady cold weather prevented the results which might have ensued, had thawing and freezing alternated to any extent while the ground was free from its snowy covering. Experience shows that extreme cold produces little or no effect on the wheat plant, provided the transition from that state is gradual, and without sudden and violent alternations. We are also happy to state that so far as our observation has extended, and from the intelligence that has reached us, the wheat plant, to this date, has suffered little from the action of spring frosts, and presents a very healthy appearance. It is true it cannot be considered as passed all danger from this source, but extensive injury rarely occurs after the month of March. Appearances at present indicate an early spring; the song sparrow, bluebird and robin, have already returned from their migration; the striped squirrel is abundant in the forests, and the husbandman is already in the field with his plow. Some 'snappish' days we must expect, but to those, who, like ourselves, hail the advent of spring and summer as the opening anew of sources of health and enjoyment, present appearances give a promise that the days of wild flowers, singing birds, green fields, and leafy woods, are at hand.

IMPROVEMENT OF CLAY SOILS.

Messrs Editors—What method shall I take to reclaim worn-out land ? soil, stubborn clay. Will leached ashes or lime effect a cure ? If so, what proportion to the acre?

E. H. Northrup.

Shoreham, Vt. April 5, 1844.

The great trouble with a clay soil, is its tenacity. The compactness of its particles, keeps, in wet weather, too much water on the surface; and in dry weather it 'bakes,' as we say—becomes so hard that it absorbs but little moisture, and cannot be penetrated by the roots of plants. Thus, on clay soils, vegetation is very likely to suffer in turns, both from an excess, and a deficiency of moisture.

To guard against these difficulties, the first object should be to break this obstinate tenacity by a thorough loosening. To keep the vegetable matters near the surface, where, especially on such soils, they are most effective in aiding the growth of plants, we would turn a rather thin furrow with the common plow, and follow with a sub-soil plow, running it as deep as the implement and the strength of the team would permit. This would allow the surplus water to pass readily into the earth—the roots of plants would easily find their way in search of food—while, in time of drouth, the exhalation of moisture from below, as well as its absorption from the atmosphere would be facilitated, and the growing crop would thus be protected from the evils of too much moisture at one time, and too little at another.

As to the kinds of manure to be used, we should endeavor to apply such as would tend to correct, as much as possible, the defects of the soil. From our own experience, we should not expect much benefit from the use of ashes—their effects are more favorable on sandy soils. We would try both lime and gypsum, and if their effects proved to be such as would render their application profitable, should use such quantities as seemed expedient. We should endeavor to induce the growth of clover, and if that crop could be made to flourish, it would be found a certain and great improver of the soil; and should gypsum operate well, a high degree of fertility might be gained by the use of that substance in connexion with clover. Animal manures of all kinds, if they can be had, should of course be applied, as they are valuable on soils; and if there was a chance to obtain saw-dust conveniently, and at small expense, we would us it liberally, having witnessed its effects in improving tenacious soils.

It is proper to observe, that if draining should be necessary, that should be the first object of attention. The loosening of the soil as above mentioned, will operate as a considerable drainage; but actual observation only can determine whether it will be sufficient.

EXPERIMENTS.

Well conducted experiments are of the greatest service to the cause of agriculture. Some of the most important improvements yet made, have resulted from experiments made with care, and directed with skill. Great means are not required to institute useful experiments; the most humble tiller of the soil may contribute his part, and frequently such have rendered more aid to the progress of farming than the rich. Let every farmer then select some subject important in itself, and capable of general application, and enter upon its prosecution with a determination to give it a fair trial, to ascertain the expense, the profits, the best mode of culture or treatment, and as far as he is able, settle that question not only for himself, but for the public. The farmer should allow no year to pass, without prosecuting investigations of this kind; and if properly conducted, he will soon have a mass of facts accumulated, having a direct bearing upon his soil, crops, culture, manures, and general management of his farm, of the greatest practical value.

Corn given to fowls should be crushed and soaked in water; this helps digestion.

MONTHLY NOTICES.

☞ We are sensible that it will be impossible for us to make up, in all respects, for the loss both we and our readers have sustained in the death of Mr. Gaylord, late associate editor of this paper. It is our intention, however, to secure such aid as will enable us to sustain as far as possible the reputation of the Cultivator, and such as we trust will prove satisfactory to our friends.

Communications have been received since our last from E., A Subscriber, H. Hull, F., Another Subscriber, H. H., D. C. Goodale, S. Weller, E. H. Northrup, L. A. Morrell, Americus, L. F. Allen, E. N. Horsford, Plow Boy, (should have paid his postage,) J. Shillaber, B. H., S. N. Hawes, J. Beal, A. J. Prime, A. of the North, A Practical Farmer, H. Woniger, (from Central America,) J. S. S., C. R., Old Nova, (from Nova Scotia,) J. G. W., J. P., Frank Farmer, J. Wells, L. Durand, Mago, Viator, Junius, A Grenada Planter, (from the island of Grenada, W. I.)

☞ Our thanks are due to the Hon. Mr. Ellsworth, Com. Patent Office, for several parcels of seeds, including Essex Spring Wheat, English Spring Rye, Chevalier Barley, Orange Sugar Beet, Tobacco, Marrowfat Squash, &c.—To George Olmsted, Esq. Hartford, for the Conn. Courant, with an article on the "Culture of Choice Fruits."—To D. O. Prouty, Philadelphia, for papers of Seymour's new white giant Celery, and Union Head Lettuce.—To the Agricultural Society of the Island of Grenada, for the beautifully executed drawings of the "Cane Fly," and accompanying essay, which shall have a place in the Cultivator as soon as we get the drawings engraved.

☞ Our friend Thomas Affleck, Esq. of Ingleside, Mississippi, will please accept our thanks for a copy of his very interesting lecture on the Elements of Horticulture, delivered before the Agricultural, Horticultural and Botanical Society of Jefferson College, Miss. The subject was well illustrated by Mr. A. in his usual perspicuous style.

American Herd Book.—We would call attention to the prospectus of Lewis F. Allen, Esq, (in another part of this No.,) for the publication of an *American Herd-Book.* We think such a work will be well received, and from Mr. Allen's talents, and the long attention he has devoted to stock, we do not hesitate to say that he is in every way fully competent to perform the task he has undertaken; and we hope our breeders will afford him such assistance as will enable him to go on with the work.

New Work on Poultry.—Saxton and Miles, New-York, have now in press a work on poultry, by C. N. Bement. From having perused a considerable portion of the manuscript, we are warranted in saying it will be a valuable publication. It will contain numerous engravings, drawn from life, of the different species and most noted varieties; besides engraved plans of poultry, horses, feeding-boxes, &c. Mr. Bement has devoted much labor to the collection of facts illustrating the habits of poultry, and the best modes of management, and we risk nothing in saying the work will be found highly interesting as well as useful.

Sale of the late Mr. Grove's Saxony Sheep.—It will be seen by an advertisement in this number, that these very superior sheep will be sold in September next. An opportunity will then be afforded of obtaining fine wooled sheep, which we have no doubt are equal in value to any in the world. We have seen some animals from Mr. Grove's flock, and for fineness of staple and freedom from *gum,* as well as symmetry of carcass, we consider them unsurpassed by any we have met with.

Scientific instruction on Agriculture.—From an advertisement of the Newburg Academy, of which Dr. A. J. Prime is Principal, we learn that in addition to the branches usually taught in Academies, a department has been formed for instruction in the sciences, particularly in their application to agriculture. It is not now the intention to teach practical farming, though we are told that preparations are being made to do so at no remote day; but instruction will be given in those principles, a knowledge of which is essential to the successful prosecution of agriculture, and a full course of lectures will be given on this subject and kindred branches, and pupils of a suitable age will be taught the method of analysing soils, &c. From what we have seen of the writings of Dr. Prime, we should think him well qualified for giving such instruction as is proposed, and we would call the attention of the public to his school.

Agricultural Science.—We are gratified to learn that Mr. J. P. Norton, of Connecticut, son of J. T. Norton, Esq., formerly of this city, who has for some years pursued the study of chemistry with some of the ablest professors of the science in this country, has sailed for Europe with the intention of pursuing the study of chemistry as applicable to the purposes of agriculture, under the direction of Professor J. F. W. Johnston, the able lecturer on Agricultural Chemistry. Mr. Norton will accompany Professor J. in his tour through Scotland during the present summer, where he is, we believe, engaged by an association of agriculturists, for the purpose of visiting and examining their farms, analysing soils, and making suggestions for their improvement. These tours will afford Mr. N. a fine opportunity to become acquainted with Scottish agriculture, and we hope he will favor us with notes of his observations.

Cotton Gin—Inquiry.—A correspondent at "Ometepe, Republic of Central America," H. Woniger, Esq., makes the following inquiries, and we shall be greatly obliged, if some of our Southern friends will furnish us with the information asked for:—"I read in the July No. 1842, of your interesting paper, an article, dated from Demopolis, Ala., and signed 'I. B. C.' in which the writer states that in that place, a gin for cleaning cotton has been invented on the roller principle, which he says is thought will supercede the saw gin. As I cultivate the long staple cotton, known as Sea Island, it is interesting to me to know whether this machine answered its purpose, where manufactured, and at what price. As yet, I have not seen any farther communication respecting this invention, unless it be published in those late numbers of your paper, which on account of the great distance, cannot have reached me. I beg you to have the goodness to give me all the information you can; and also wish to inquire if you know of any machine that is made use of by growers of Sea Island cotton for the purpose of ginning, other than the common roller gin propelled by the foot of the man who attends it."

Wind-Mill.—Mr. J. Wilkinson, Union Vale, N. Y., wishes to obtain a good plan for a horizontal wind-mill to place on his barn, for cutting fodder, threshing, &c. Can any of our readers furnish it ?

Horse Barn.—A correspondent wishes to see in the Cultivator, a plan of a cheap horse-barn and carriage-house, large enough for the accommodation of four horses, hay, &c. Who will furnish it ?

☞ "Can pure China pigs, "white," be got, and at what price ?" asks J. R. C. We know of none in this vicinity. We saw some at the Fair of the American Institute last autumn, but we could not ascertain the owner of them.

"Viator."—We know nothing of the implement alluded to by this correspondent. We will make the necessary inquiries, and give the results, if we ascertain any thing valuable.

Partner wanted.—A gentleman residing in the Rock river country, Ill., owning a tract of land capable of supporting from ten to fifteen thousand sheep, is desirous of engaging a partner to embark with him in the sheep and wool-growing business. He describes the location as so favorable in soil, climate and productions, that "one would almost suppose nature had formed it especially for sheep." The region (he says,) is elevated, commanding a view of the surrounding country for the distance of from ten to twenty miles—presenting to the eye some of the most beautiful scenery imaginable Sheep are very healthy there, and show an increase in weight of 10 to 20 per cent, on being carried there from Ohio and Indiana. Any person wishing to engage in this business, may learn particulars by addressing *(post paid,)* the editors of the Cultivator.

☞ The communications of Dr. Prime and Mr. Camak will appear in our next.

Charcoal.—In reply to "A Subscriber" from Dutchess county, we would say, we consider the remarks about charcoal, to which he refers, mainly as *suggestions*, and think the quantity per acre and the value to the crop, is to be decided by experiment.

Farming in New Brunswick.—Our correspondent at St. Johns, New Brunswick, informs us that there is an increasing interest in the subject of agricultural improvement manifested by the farmers in that Province. Several Ag. Societies have been formed, and a spirit of inquiry awakened, from which much good is anticipated. Of this desire for improvement we have an evidence in the thirty subscribers forwarded us by our friend, for which he will please accept our thanks.

The State Fair.—Persons who intend to compete for any of the premiums at the State Agricultural Fair, to be held in Poughkeepsie in September, should improve all their time between this and that. The Premium List may be found in the February number of the Cultivator, and in the other agricultural publications. See to this matter in time. The extra attention you pay to your crops, and other products of your farms, will produce you pleasant excitement and profitable returns, even if you don't get a premium. There is nothing lost in agriculture, any more than in morals, by aiming at a high standard of perfection.

The chicken-hatching machine is now in successful operation in New-York. About 50 chickens are brought forth daily, or 20,000 per annum. A remarkable fact is stated in regard to weight of chickens when they first come from the egg; the chicken being several ounces heavier than the egg was at first.

Use of grapes.—Dr. Underhill strongly advises the culture of grapes, both on account of the profit to be derived from the sale of them, and from their value as food to sick and convalescent persons. At a late meeting of the New-York Farmer's Club, Dr. U. made some highly valuable observations on this subject. After 15 years' trial with various kinds of grapes, he prefers some of our natives, and recommends the Catawba and Isabella. He has three acres of the former, and seventeen of the latter. He says our people eat too much animal food, which renders their blood too thick, and causes diseases of the heart, liver and lungs. He thinks it would be infinitely better to substitute grapes and other fruit, with a little pure wine, for a portion of animal food.

ANALYSIS OF SOILS FROM ALABAMA.

To the Editors of the Cultivator—I claim the privilege of an agriculturist and a subscriber to your valuable journal, of sending you the accompanying package, and requesting, if it be practicable, you will examine the contents, state the result, and answer the following queries, which are premised by this statement.

No. 1 is a fair specimen of "sandy soil," planted in cotton, and producing good crops.

No. 2 is a deposite from the overflow of a prairie creek.

No. 3 is "bald prairie."

No. 4 is a *marl* forming the sides and bottom of said prairie creek.

In many instances the problem will soon have to be solved, whether it be best and cheapest to manure old land or buy new. Soil, artificially made rich, will produce more cotton than the best natural soil. To manure as extensively as advised by Dr. Cloud, is impracticable, unless manure can be produced otherwise than by stable-litter and stock-pens. The cotton plant and its staple, when burned, consist almost entirely of carbon. What effect upon cotton would Nos. 2, 3 and 4 (separately) produce, if mingled with No. 1? Which would be the richest and most durable in its effects, and what quantity required per acre to make its results valuable? Would burning add to the strength of Nos. 3 and 4?

There is within reach of almost every one here, quantities of dry oak and pine leaves and quick lime, which are to be obtained for the trouble only of heaping, carting and burning; and also inexhaustible stores of Nos. 3 and 4. This being the case, would Bommer's method answer a valuable end? will it produce from dry trash a manure as rich as *stable-litter*? and are the ingredients costly, other than quick lime, which is supposed to be required, and which here costs nothing in money? An answer in detail, with such additions as your knowledge and experience will suggest, would be gladly received by me, and would benefit ultimately many in this region.

Churchill, Lowndes county, Alabama. F.

We handed the above communication, together with the package of soils, to Prof. Emmons, of this city, who has made a thorough analysis of the soils, and favored us with the following practical results. It is proper to remark here, to prevent further applications for the analysis of soils, that the analysis of the above specimens occupied nearly a week's time, and that we shall not feel at liberty again to ask the performance of a similar favor at the hands of Prof. Emmons. Should any of our friends, however, wish specimens of their soils analysed, they can have it done for a reasonable compensation—say $10 for two or three specimens.

Geological Room, April 23, 1844.

To the Editors of the Cultivator—I have completed the analysis of the four specimens of soil from your correspondent in Alabama.

As the details of the analysis would probably be uninteresting, I will merely state the results:

No. 1—Light brown sandy loam,

consists in 100 grains of

Hygrometric water,	3.37
Vegetable matter,	4.00
Silex,	89.00
Alumine and iron,	3.12
Carbonate of lime,	0.50
	99.99

No. 2—River Alluvion.

Hygrometric water,	5.00
Vegetable matter,	11.50
Silex,	72.00
Alumine and iron,	10.00
Carbonate of lime,	1.50
	100.00

No. 3—Shell Marl.

Hygrometric water,	2.50
Vegetable matter,	3.00
Silex,	32.50
Carbonate of lime,	49.00
Per-oxide of iron,	2.25
Alumine,	1.25
Carb. magnesia,	9.00
	99.50

No. 4—Green Sand or Marl.

Water, and volatile matter,	15.00
Silex,	41.25
Alumine and iron,	17.00
Carb. Lime,	20.25
Carb. magnesia,	0.80
Potash,	5.00
Phosphate of lime and Peroxide of iron,	0.37
	99.57

No. 1 is a light sandy soil, which after a few years cultivation will require constant manuring. This, I understand, is the cotton land, which produces well when new. It contains, as will be seen from the analysis, but a small amount of those elements which are essential to a fertile and productive soil. Now the inquiry is, what will convert this sandy light soil into one durably productive? The answer to this question seems to be furnished by the analysis of Nos. 3 and 4.

Thus, No. 3 contains a large per centage of carb. lime, besides iron, alumine, and magnesia, the latter of which is undoubtedly a valuable element in soil. But No. 4, I think, will be more valuable than No. 3, inasmuch as it contains 5 per cent of potash, and a fair proportion of phosphate and carbonate of lime; and as the writer inquires whether burning might not aid in increasing the value of Nos. 3 and 4, I answer that it probably would, as No. 4 is an indurated marl; and besides aiding in giving it the requisite degree of fineness, it would render its elements more soluble, and quicken its action upon the soil upon which it might be employed.

Both Nos. 3 and 4 are *strictly* marls. The first contains a few fragments of fossil shells; the latter bears some resemblance to the green sand of New Jersey both in color and composition, though the peculiar green particles are wanting in the small specimens which were examined.

No. 2 is the ordinary soil of the alluvion of rivers, and is rich in vegetable matter.

To remark farther in relation to No. 4, I would recommend that this material be raised and made into suitable sized heaps, and then exposed to air and moisture, when it will probably undergo a slow disintegration, which will fit it for use. Or let it be burned and exposed, when the peculiar changes will take place more rapidly, and perhaps be fitted for immediate use. This contains also a pretty large amount of sulphate and chloride of lime, each of which it is easy to detect in a watery solution after boiling.

Upon the whole then, I believe that both Nos. 3 and 4 will prove (if in sufficient quantity and easy of access,) very important materials for renovating the light sandy soils in their vicinity, and even applicable to soils similar to No. 2, and probably an early application of them before exhaustion has taken place would be the best economy.

The only question which remains to be answered, is, what quantity of No. 4 will be required per acre? From what I have seen of the New Jersey marl, I should recommend from 20 to 25 cart loads per acre. It may be used with perfect safety in larger quantities, but it appears to me that this is about the quantity which economy would require. Respectfully yours,

E. EMMONS.

POULTRY.

At a late meeting of farmers and others at the State House in Boston, the subject of poultry was discussed.

Mr. Cole, of the Boston Cultivator, stated that the value of poultry in the United States, was, at the time of the late census, $12,000,000. In four of the New-England states, the value of poultry was more than that of swine. Fowls are as important as hogs, and should receive more attention. Our Agricultural societies should offer premiums for the best breeds, and the best management, showing the largest production in proportion to the expense. He spoke of the Bucks county fowl, and said some capons of this breed had recently been sold in Boston at $3 per pair—or a shilling, (a sixth part of a dollar,) per lb. They weighed 18 to 19 lbs. per pair. He thought the Dorkings were on the whole as good as any breed in the country. The Liberian, or Russian fowl, with a long beard, like a Jew, are esteemed good layers—there is only a few of them in the country.

Col. Thayer, of Braintree, spoke of his experience in keeping poultry for the last forty years. He had kept various breeds of hens—he liked the Dorkings. He thought hens would lay no better, and were even more inclined to sit, if kept without a male. Hens are very profitable. There is more nett profit in six hens than in a cow. When eggs are cheap they should be kept till they are dear. He knew a man who made his fortune in eggs. They are preserved as follows: Take one quart of salt and three quarts of lime, stirred up and dissolved till it is of the consistence of cream; then put in the eggs. He thought the keeping of poultry a very profitable business. He had raised geese. He liked a cross of the wild with the Mountain geese, and he had sold these mongrels at three dollars apiece. They weighed eighteen pounds each. [We presume the "Mountain" geese spoken of are what is sometimes called the India, or African, or Swan goose.—Eds. Cult.] The Bremen geese are very large, but they lay and hatch while it is too cold for the goslings. His hens lay well in winter. He has a tight hen-house, so that water will not freeze in the coldest weather, though the door for them to go out is left open. He thought the gapes were caused by small worms in the wind-pipe that sometimes crawled up and choked them. He had destroyed them by applying spirits of turpentine on a feather, but he sometimes killed the fowls by it. Turkeys are much inclined to wander. He thinks they are not generally profitable; but he once saw a hundred or more at Mr. Webster's, in Marshfield, running on the salt-marsh, with a wide range, feeding on grass-hoppers. He thought they might in such a case be raised to advantage.

Mr. Gardner had sometimes raised turkeys—had kept 100 to 150 and when fed with curd they did well; but if they got loose and wandered about, they nearly all died.

Mr. Dodge thought fowls should have meat in winter. Any kind of meat, cooked or raw, chopped fine, is good.

Col. Thayer said he had not found white-washing hen-houses, as had been recommended, effectual in destroying lice. He had been so much troubled with them, that on going into his hen-house, a thousand would come on him. He shut up the house close and kept a fire of charcoal in it one night, and it destroyed them all.

We have condensed the above from the Boston Cultivator.

NEW WORK ON SHEEP.

Mr. L. A. Morrell is preparing for the press a work on sheep, to be entitled the "American Shepherd's Guide." The different divisions of the work will embrace copious remarks on the philosophy of wool, the history of the sheep, with appropriate notices of all the different breeds and races in the world—full directions on the management of sheep—a chapter on breeding and crossing, and one on the best mode of fattening sheep for market—the diseases and anatomy of sheep, with cuts, to be compiled from the most unquestionable sources, and from eminent practical sheep-breeders in the United States—*cuts* of the *Merino*, *Saxon*, and the distinguished *English breeds*, drawn from life, &c. &c.

The object of this announcement, is to enable Mr. Morrell to obtain by a correspondence with wool-growers, such information on the various branches of sheep-husbandry, as will enable him to perfect the work; and we trust the friends of this important interest, will promptly render him all the aid in their power.

Mr. Morrell hopes to complete the work by the early part of the coming winter, when it will be submitted to the examination of the Executive Committee of the N. Y. State Ag. Society.

Such a work as is here proposed is needed, and we are very glad that the execution of it has fallen into the hands of Mr. Morrell, whose thorough knowledge and well known practical acquaintance with every department of sheep-husbandry, we consider a sufficient guaranty that every thing will be done *right*.

TRIBUTE OF RESPECT.

At the last monthly meeting of the Executive Committee of the New York State Agricultural Society, in the old State-house, in Albany,—the President, J. P. Beekman, in the chair:

After some remarks in reference to the losses the Society had lately sustained by the deaths of members,—a brief memoir of H. D. Grove, of Rensselaer, having been read, and Mr. J. B. Nott appointed to prepare a memoir of Willis Gaylord, it was then, on motion of Mr. Alexander Walsh, of Lansingburgh,

Resolved, That the members of the Executive Committee wear the usual badge of mourning for thirty days, in token of respect for their deceased associates, Willis Gaylord and Henry D. Grove.

FOREIGN INTELLIGENCE.

By the Acadia, which arrived at Boston on the 21st of April, we have received our files of foreign papers up to the first of that month.

Mr. Colman's Tour.—The first part of Mr. Colman's Tour was expected by this arrival, but we have not learnt whether it was received by his agent in Boston or not. We see by a notice in our London papers, that it was to be issued in London (in the Farmer's Magazine,) the first part to to appear on the first of this month. The Mark Lane Express, in an article on this subject, says:

"Mr. Colman has been received by the agriculturists of Great Britain with all the kindness and respect which his personal character, his mission, and the kindred associations of his country could demand; he has had the opportunity of visiting the most extensive landed proprietors who take a general interest in the cultivation of the soil and the breeding of stock, and has been hospitably received by the most experienced and talented breeders and cultivators of the soil amongst the tenant farmers. His advantages, in these respects, have been considerable, and we know he will profit by them."

Great preparations were being made for the show of the Royal Agricultural Society, which is to take place at Southampton in July next—commencing on the 18th, and continuing until the 26th of that month. Besides erecting the necesasry buildings for the exhibition, the citizens of Southampton have subscribed $5,000 for the use the Society. Much animation exists, and the exhibition will probably equal in interest any former one.

The excitement from the discussion of "free trade" and "corn laws" still continues, and a large space in the agricultural papers is devoted to these subjects. There seems, however, no probability that any important change in the policy of Great Britain in regard to the corn laws, is about to take place. The agricultural population is vastly more numerous, and holds of course a proportionally greater influence than the manufacturing and commercial. It is estimated that there are 12.000,000 of the agricultural, and 3,500,000 of manufacturing population. The former are not likely to relinquish their influence, or submit to measures prejudicial to their interest.

The past winter in England was generally quite mild, though in some districts, especially in the highlands of Scotland, there were in February some very unusual storms of snow, which proved quite destructive to sheep, and in some instances to human life. March was remarkably cold and rainy, and in some neighborhoods considerable damage had been sustained by hail-storms, which were accompanied by very high winds and thunder. At the close of March, however, the weather was fine, and all accounts state the growing wheat never looked better. A considerable proportion of the spring grains had also been put in the ground under favorable circumstances.

The prices of meats were considered low. The best of wether mutton was selling at 6d, or in our currency, about 11 cents per lb., and beef from 4½d, to 5½d, or 8 to 10 cents per lb. The demand for American provisions generally was dull. Wheat was selling at Liverpool at 8s. 4d. to 8s. 8d, or $1,91 to $1,98, per bushel of 70 pounds. American wheat 7s. 10d. to 8s. per 70 pounds. Duties about 2s. or 46 cents per bushel of 70 lbs. Farm laborers were generally well employed at 10 to 12 shillings per week, or about 38 to 46 cents per day.

Prize Heifer.—Sir Charles R. Tempest's short horn heifer, which took the first prize and gold medal of the Smithfield Club in December last, was slaughtered soon afterwards. The weight of her four quarters was 1770 pounds—the weight of the loose fat or tallow, 228 lbs. She was four years and nine months old.

To Kill Thistles.—It is said in some of the English papers, that if a small quantity of salt be put on the centre of the thistle, in the course of nine or ten days the root and every part of the plant will be destroyed. The salt should be applied before the thistles have become large. Try it, and let us know how it works.

Asparagus.—A medical correspondent of an English paper says this plant has great virtues in curing rheumatism. Slight attacks he says are cured in a few days by a free use of this delicious esculent, and chronic cases are much relieved, especially if the patient carefully avoids all acids. He says the Jerusalem artichoke has likewise a similar effect, when used as food.

Effects of Drainage on Human Life.—The Rev. Professor Buckland, at a public meeting held in Oxford, said that in the parish of St. Margaret, Leicester, containing 22,000 inhabitants, it appeared that one portion of it was effectually drained, some parts but partially so, and others not at all. In the latter, the average duration of life is 13 years and a half, while in the same parish, where the drainage is only partial, the average is 22 years and a half, thereby showing the frightful effects of a bad atmosphere.

Extraordinany Ewe.—Mr. George Underwood, of Shenley Dens Farm, has, for the last ten years, had in his possession an ewe which has, during that period, yeaned the immense number of forty-four lambs! The animal died this year. The lambs were yeaned as follows:—1835, five lambs; 1836, five do.; 1837, five do.; 1838, four do.; 1839, three do.; 1840, five do.; 1841, four do.; 1842, four do.; 1843, four do.; 1844, five do.—total, forty four.

BARLEY.

Many people are deterred from the cultivation of barley on account of the difficulty of keeping it pure. Some have an idea that it has a natural tendency to degenerate into *oats*—a theory analagous to that of the transmutation of wheat to chess. It is contended that if barley is eaten down by worms, by geese, or by any animal, while it is growing, some mysterious change takes place in consequence, by which it produces oats instead of "seed after its kind."

This erroneous (not to say ridiculous,) theory, probably originated from the fact that oats are more hardy than barley; that they sooner recover from any accident, such as being bitten down by animals while growing; that they tiller more, send up more seed-stalks, and increase in a greater ratio from a given number of original kernels, than barley.

There is frequently some oats among barley when sown, and from the above-named circumstances, the increase of the oats is always the greatest, and if the proportion of oats in the seed sown is sufficiently large, and an accident should happen to the crop, the oats start so much sooner and so much more vigorously, that the barley may be smothered.

Mr. Merrifield, (a good farmer, by the by,) informs us that he raises barley for which he always gets in market six cents a bushel more than the usual price. He is particular to keep it pure. In the first place, he took some good two-rowed barley and carefully picked it over by hand, thus taking out from it the oats and foul seeds. He is careful that oats do not get carried to his barley-ground in manure, and therefore does not use manure with that crop; and when his horses are at work where he intends to sow barley, he gives them no oats unless they have been first burnt or baked, so that they will not germinate. From pursuing this method, his crops are clean and heavy, frequently weighing fifty-four pounds to the bushel. Of late, his barley has all been sold for seed at home, and he has brought none to market.

SOWING CORN FOR FODDER.

We would suggest the sowing of corn broad-cast, on rich land for winter fodder. Mr. Sotham, of "Hereford Hall," sowed six acres last year, which he thinks yielded nearly six tons of dry fodder to the acre. He has fed both cattle and sheep with it (cut with a machine,) the past winter, and is so well pleased with it, that he is determined not to be without it in future. Others, who have tried it, speak equally in its favor. The quantity of seed recommended to be sown per acre, is from two to three bushels. Some experiments made by Mr. Welles, of Boston, seem to show that it is best to cut it soon after the spindle makes its appearance.

THE BEST SHEEP COUNTRY.

J. S. Skinner, Esq., has sent us a copy of a correspondence between him and Hon. T. L. Clingman, member of Congress from North Carolina, on the subject of sheep-husbandry, and the best districts for keeping sheep in the United States. Mr. Clingman gives a very interesting description of a tract of country situated in the mountainous region of North Carolina, in the counties of Yancey, Haywood, &c., and judging from his statement, we should think it admirably adapted to sheep. Mr. C. says the elevation of Burnsville, the county seat of Yancey, in about 2,900 feet above the level of the ocean, and that the general level of the county is much higher. The climate is represented as being delightfully cool in summer, the mercury seldom rising higher than 76 or 80 deg. Very little of the county is said to be too rough for cultivation; a large portion, it is said, is a sort of elevated table-land; undulating, but not too broken; "even," says Mr. C., "as one ascends the higher mountains, he will find occasionally on their sides, flats of level land containing several hundred acres of land in a body. The top of the Roan (the highest mountain in the county except the Black,) is covered by a prairie for ten miles, which affords a rich pasture during the greater part of the year. The ascent to it is so gradual that persons ride to the top on horseback from almost any direction. The same may be said of many of the other mountains. The soil of the county generally is uncommonly fertile, producing with tolerable cultivation abundant crops. What seems extraordinary to a stranger, is the fact that the soil becomes richer as he ascends the mountains. The sides of the Roan, the Black, the Bald, and others, at an elevation even of five or six thousand feet above the sea, are covered with a deep rich vegetable mould, so soft that a horse in dry weather often sinks to the fetlock. The fact that the soil is frequently more fertile as one ascends is, I presume, attributable to the circumstance that the higher portions are more commonly covered with clouds, and the vegetable matter being thus kept in a cool moist state while decaying, is incorporated to a greater degree with the surface of the earth, just as it is usually found that the north side of a hill is richer than the portion most exposed to the action of the sun's rays. The sides of the mountains, the timber being generally large, with little undergrowth and brushwood, are peculiarly fitted for pasture grounds, and the vegetation is in many places as luxuriant as it is in the rich savanna of the low country."

The region is said to be particularly well adapted to grass, and grain does well.

Were it not for the great press of communications, we should be happy to publish the whole correspondence.

AGRICULTURAL MEETINGS IN ALBANY.

In our last number we gave the proceedings of the first of a series of weekly agricultural meetings, commenced at the rooms of the State Agricultural Society in this city.

We have taken notes of the discussions at the several meetings which have followed, for the Cultivator, but finding that they would occupy more room than we could possibly devote to the subject, we have given our reports of the doings to the daily papers for publication, and must content ourselves with a brief notice of them here.

The subject of discussion at the second meeting, was the connexion of geology with agriculture and other useful arts. Professor Emmons addressed the meeting at length. Professor Hall, and Mr. E. N. Horsford also spoke. Many valuable facts were stated, showing the benefit which has been in various ways derived from the geological survey of this State. Inexhaustible mines of iron ore, of different kinds, have been discovered, and questions in regard to the existence of other minerals, coal, &c., finally settled. It was observed by Professor Hall that more money had formerly been expended in searching for coal in the valley of the Hudson, than the whole survey of the State had cost. It is now certain there is no coal there.

Mr. Logan, the gentleman under whose charge the geological survey of Canada is being conducted, made some very interesting remarks. He stated that the results of the geological survey of this State had attracted much attention in Europe, and were there looked upon as quite extraordinary—especially so considering the short space of time occupied in the examination.

At the third meeting Dr. Lee gave a lecture on the subject of the practicability and expediency of growing wheat in the southern part of this State. Dr. L. recommends for those soils the application of bones and charcoal, saturated with urine. At this meeting Professor Emmons made some interesting chemical experiments illustrative of the action of different qualities of soils.

At the fourth meeting the subject discussed was wool-growing, the relative qualities and profits of different varieties of sheep, &c. The speakers were Dr. Lee, S. Howard, E. N. Horsford, J. B. Nott, Judge Cheever, and Mr. Shaw. At this meeting, also, the valuable paper by Mr. Horsford, on "Feeding Stock for Service and Slaughter," which will be found in another part of this number, was read.

The subject of discussion at the fifth meeting was *sheep-husbandry*. Mr. J. B. Nott, by previous arrangement, opened the discussion. He was followed by Dr. J. P. Beekman, President of the New York State Agricultural Society, who gave his own mode of managing sheep, which seemed to be very judicious and practical. Mr. Howard, Mr. Bement, and Mr. Sotham, also took part in the discussion.

At the sixth meeting, the subject was the improvement of the breeds of domestic animals. The discussion was conducted chiefly by Dr. Lee, Prof. Emmons, and Mr. Howard, and seemed to attract much attention. The remarks of Dr. Lee and Prof. Emmons were chiefly of a physiological character, and those of Mr. Howard were mainly designed to show what had been the system of improvement practiced by the most distinguished breeders of domestic animals.

Much interest is evidently awakened by these meetings, and we think that by another winter an organization will be adopted for carrying them on more systematically. We hope they will be kept up at least during the session of the legislature; and we see no difficulty of having such an arrangement as will secure the delivery of lectures on agriclutural chemistry, comparative anatomy, &c., besides discussions on the various subjects of practical farming and rural economy, in which all may take part by giving the details of their own experience. Some such arrangement, it seems to us, would be likely to enlist the feelings of all, and we trust will be adopted.

History of the Mercer Potatoe.—That variety of the potatoe known in some sections of the country as the Chenango or Philadelphia, in others as the Mercer, in others still, as the "*Meshanic*," (corrupted from Neshanoc,) has perhaps been more generally cultivated for several years past than any other kind. The Farmer's Cabinet gives the history of this potatoe, which is substantially as follows: In the year 1772, a family of the name of Gilkey, came from the county of Derry, in Ireland, and settled in Westmoreland county, Pennsylvania. In Nov. 1797, two members of this family, John and James Gilkey, removed to Mercer county, Pa., and settled about 2 miles east of Neshanoc creek. In 1801 or 1802, John Gilkey planted a quantity of potatoe-balls (or seeds,) from red, blue, white and other varieties of potatoes. From the potatoes produced from these balls, Mr. Gilkey selected the variety above named. They were soon after cultivated and brought into notice near Philadelphia, and from thence have been disseminated over the whole country. This history was written by James Gilkey, brother of John, who produced the potatoes. In an account of the origin of this potatoe published a few years ago, it is stated that John Gilkey was educated for a Catholic priest, and that he was an exile from the Emerald isle, &c., which his brother says is incorrect.

Cheese to China.—The export of cheese to China from this country is increasing, and will soon form a considerable item. It is packed whole in cases filled with sawdust, and secured so as to exclude the air.

ADDRESS OF THE HON. T. H. McCALEB,

Before the Agriculturists and Mechanics' Association of Louisiana—delivered at Baton Rouge on the 8th of January, 1844.

It is not often that we have the pleasure of perusing an address of this nature so well written, so appropriate, and so able, as this one from the pen of Judge McCaleb. Not so practical, perhaps, as some, it still happily blends the useful with the agreeable, and diversifies its remarks to the planter, with the fruits and flowers of literature. While he asserts that the mechanic arts have made their greatest progress on this side the Atlantic, he candidly admits that to northern genius this advance is owing, and points to the cotton gin of Whitney, the card machine of Whittemore, and the steamboat of Fulton as proofs of his position. We never reflect on the fate of Whitney without a feeling of indignation that by a mere fiction or quibble of law, the states, the value of whose soils he more than quintupled by his invention, should have deprived him of the benefits to which he was justly entitled for his discoveries. We have but room for a single extract, and that is one, which, though relating primarily to the south, is, in its principles, applicable every where. We quote it with pleasure, because it is precisely the opinion we have advanced and maintained, in regard to the capability and duty of the south as well as of the north, as the readers of the Cultivator are well aware:

"But it is in another department of industry that we exhibit a deficiency which is the more deplorable, because there is the less reason to justify it. I allude to the system of planting for the most part adopted in some of the southern States of the Union. A great change for the better has been effected within the last two or three years; but much yet remains to be done to place us on a footing of independence. There is no reason why the planters of Louisiana and Mississippi should depend on the States north of us for almost all the necessaries of life. There is no reason why you should look beyond the boundaries of your own extensive domains for the articles required for home consumption. It is a great mistake, a very great mistake, that the labor of the south can be more advantageously employed in the cultivation of the great staples of the South, to the exclusion of the nutritive grains. It is a great mistake to say you will raise nothing but sugar, or nothing but cotton, and then depend upon a *market* for the supplies essential to your very existence. Such a system may be admirably adapted to the encouragement of the industry of others, but it is destructive to your own agricultural prosperity, and directly at war with all your efforts to maintain yourselves in a state of perfect independence. Any one who will for a moment consider the annual fluctuations in the prices, not only of the staples of the south, but of those productions which you are compelled to purchase with their proceeds, will be fully satisfied of the insecurity there must be in imposing implicit reliance upon markets over which you can exercise no control, and of which you must ever be more or less, the unresisting victims. How often has it happened when the price of sugar and cotton has been low, that the price of corn, flour, bacon, and other indispensable articles of western produce, have been comparatively exorbitant; and who can fail to perceive that from such contingencies in trade, the planter is always liable to be the greatest sufferer. * * * Instead of struggling year after year to be able to tell your neighbor how many hogsheads of sugar, or how many bales of cotton you have made, devote at least one-half your labor to the cultivation of the nutritive grain and the raising of every species of useful domestic animal, from the "hog that walloweth in the mire" to the noble "war-horse, whose neck the God of battles hath clothed with thunder." Turn out for pasture the lands exhausted by tillage thro' a long series of years, and so far from destroying the herbage that may appear upon it, try to do that, which, in the estimation of one of the boldest and best writers of the last century, would render you "greater benefactors to the human race than all the politicians that ever existed"—try to "make *two* blades of glass grow where but one grew before." Thus, even your detestable, obstinate *coco-grass*, the object of so many bitter curses, and the theme of so much pitiful lamentation, may be made subservient to your interests. Cut down the undergrowth of your wild lands, and let in the genial rays of the sun, and the teeming bosom of a fertile soil will present you its verdant landscape, vocal with the bleating of flocks and the lowing of herds. Act as a people with vast internal resources would act under the operation of an embargo law. Husband your own resources. Look to your own soil. Ask no favors from others, and grant what you please. Thus you may plant, and thus successfully defend the standard of domestic independence. With well filled granaries, you may laugh to scorn the attacks of hostile, fickle, or *party* legislation, smile at the whims and caprices of commerce, and turn with listless indifference from anxious speculations on the rise and fall in stocks, or the fluctuations in the money market."

From the report of the proceedings of this association, as we find them in the Concordia Intelligencer, (one of the ablest papers in the south west, by the way,) we think the meeting and the exhibition both interesting and promising. Mississippi and Louisiana have some most able and intelligent men engaged in the great cause of agricultural reform. Banded together in these societies, their labors are united, and will be more quickly and widely felt. We wish them every success.

HORSE AND MULE TRADE.

It is generally known that in all warm climates the mule is perferred to the horse for labor, and that large numbers are annually sent from the United States to the West Indies, for the use of the sugar plantations, and for carriage animals. Some horses are also sent out for the same purpose, and the trade has usually proved mutually advantageous. A large portion of this trade is monopolized by the city of New-Haven, and furnishes a very respectable part of the export business of that city. Speaking of this branch of trade the N. H. Courier says:

"Most of these animals (horses, cattle and mules) are sent out in large vessels, called by the craft 'Horse-Jockies.' The deck of the vessel is converted into a stable, by placing a sort of roof eight feet high over it, and the horses are tied in parallel rows with their heads towards each other. The water for their use is carried in the hold of the vessel, and the hay pressed in bundles, is laid upon the temporary roof. When they are shipped, they are packed as closely as herrings in a box, so that during the whole voyage, they are compelled to stand up. At first this is very tedious to the poor brutes, and until they get their 'sea-legs' on, they suffer a great deal. Most of the mules are brought here in large droves from Canada, but often times they are driven from the west, as far even as from Ohio and Kentucky. In fact these animals are sent here from nearly every state in the Union."

The breeding of mules for southern markets has been one of the most profitable operations of the west, and more good mules have been produced in Ohio, Kentucky and Tennessee, than perhaps in all the other states taken together. One individual, in Ohio, M. L. Sullivant, Esq. of Columbus, usually sells from his own farm 200 to 300 annually; most of which go to the Baltimore market.

Grinding corn with the cob.—Mr. John Lewis of Kentucky, in a communication published in the Southern Planter, speaks of a mill lately invented for grinding unshelled ears of corn. He describes it as follows:—"The eye of the upper stone, instead of being circular, is enlarged on one side, and a removable tube, large enough to admit any ear of corn, is thrust into this side enlargement. Into the lower stone, beneath the end of the tube, two knives are fastened, so that at every revolution of the stone, the ear of corn is swept around over these knives, which slice it up and grind it into meal. It is a patent affair, answers admirably, and is fitted to any common mill, patent included for fifteen dollars." Mr. Lewis also says—"Mr. Robert Wickliffe, of Lexington, has had lately a sort of mill erected, which grinds up oats in the sheaf or corn in the husks. I have not examined it, but am told it makes excellent *chop*, ready for moistening or feeding dry."

CORN-STALK MOLASSES AND SUGAR.

Mr. Lewis Paterson, of Tarentum, Pa., informs us of two unsuccessful attempts to manufacture sugar from corn stalks. In one instance he broke off the ears from the stalk as fast as they made their appearance, and in doing so, frequently broke the stalk, as it was at that time remarkably tender. On another lot, part of which was sweet corn, he let the ears get large enough to boil for eating, before breaking them off. The stalks were duly stripped of their leaves and crushed with iron rollers, and the juice, after having been strained through a fine sieve, was boiled off in iron kettles. After the sap was considerably reduced by boiling, it was taken out of the kettles, left to cool for an hour, some lime water added, and again put into the kettles, (leaving behind the sediment,) and boiled till it became quite thick. It was then removed and cooled; but it has had "no appearance of graining to this day." The flavor of the molasses, he says, "is wild and rank." The molasses from the lot on which the ears got big enough to boil, was best; but that "was by no means free from an unpleasant taste." It was tried in some kinds of cookery, but did not answer. Mr. Paterson does not say at what particular stage of the stalk it was cut, and this we presume to be a very important matter; as soon after a critical period the sap changes, so that the syrup is very different in its quality, and cannot be made to crystalize. We have seen excellent molasses made from corn-stalks, and very fair sugar—the molasses, equal at least, to any cane molasses. Will Mr. Aylesworth, of Granville, Ohio, inform us how he made some sugar and very fine molasses which we saw at his house, last year? We would also thank him to describe the whole process—to state particularly how the stalk should be raised and prepared, and the precise stage at which it should be cut—the expense of producing the molasses and sugar, yield per acre, &c.

Since the above was written, we have received a communication from Mr. John Beal, of New Harmony, Ind., furnishing some valuable information on the manufacture of corn-stalk sugar. It appears that Mr. Beal was quite successful in his attempts at making sugar the two last seasons. Mr. B. prepares his ground in the usual way for planting corn, and plants in rows three feet apart, with the kernels about three or four inches apart in the row; then keeps the ground clean by the use of the plow and cultivator. We subjoin an extract from his letter, and in our next will give his mode of preparing the stalk and manufacturing the sugar:

"While I am addressing you, I take the opportunity of noticing a paragraph from the communication of S. Tillotson, in the last (Feb.) number of the Cultivator. I had always much desired that some experiments should be made in Louisiana, where they have all the fixtures, and experience necessary for the purpose; but I must confess that I am not only dissappointed in the result, but surprised at the statements.

Mr. T. says the juice weighed 8 degrees, by which I suppose he means the specific gravity, or the amount of saccharine matter contained in it. Juice from my corn-stalks, was tested by Dr. Owen of this place, two separate years, and at different times, and was always found to be nine and a half; but that which excites the greatest surprise, is, that he obtained no sugar. The first experiment I made, in 1842, with about a gallon and a half of juice, boiled in a common culinary vessel over a cooking stove, yielded sugar, and every succeeding experiment, when the boiling was sufficiently rapid, has done the same. How so successful a manufacturer of cane sugar should so completely fail, is a matter of great surprise, as those who have been accustomed to see and be present at the making of cane sugar during a succession of years, assure me that there is great similarity in the taste and appearance of the juices of the two.

Again, in regard to Mr. T.'s sugar crop, am I under a wrong impression as to the quantity of sugar raised per acre in Louisiana, or was Mr. T.'s a most extraordinary crop. My impression has always been that one thousand pounds per acre was an average yield, and that a hogshead was about the same; and I am informed by a person who has spent many years of his life in the South, that eight hundred pounds is nearer an average there than a thousand. If I am wrong, I should be glad to be set right, and if this should meet the eye of Mr. T. he will perhaps explain."

New fact in Natural History.—Col. Thayer, in a communication on poultry in the Massacusetts Plowman, says:—"There are several kinds of wild geese; those called 'the winter geese,' that stay in our bays till very late, and as some say during the winter, are much the largest and of a higher color than those called 'the summer geese,' and which always go to the south in the fall. I have heard of some that are *entirely white*, of a smaller size, of the same form, and make the same noise. I have never seen any of this kind, but was told by several of my neighbors, that they saw a small flock that lighted in a pond near my farm, were very near to them, and were perfectly satisfied."

Veterinary Department.

"THUMPS" IN SWINE.

Mr. J. W. Salter, of Ind., informs us that he has lost several hogs by a disease called "thumps." We have no personal acquaintance with a disease known by that name. In vol. 8, p. 32 of the Cultivator, it is stated that Dr. Shelby, of Tennessee, had used calomel for the cure of this disease, with some success; but the quantity of calomel, or the mode of administering it, is not given. If Mr. Salter is correct in supposing it to be inflammation of the lungs, bleeding, as he suggests, would undoubtedly do good, if done in the early stages of the disease. The hog is a bad subject to bleed, (except with a *butcher-knife*) though cutting off the tail and ears may answer the purpose; but in addition to that we would give plenty of physic, such as castor oil, Glauber's salts, (mixed with molasses,) or sulphur. We have had sick hogs which exhibited many of the symptoms described by Mr. Salter—heaving of the sides, hurried respiration, &c.—and have lost some; but have cured several by giving them a good dose of castor oil as soon as they were discovered to be ill. The obstinacy of the hog renders him a troublesome patient about taking medicine. We fasten a small rope to his snout, pull up his head by throwing the rope over the top rail of the fence, take a piece of hard-wood board, say three inches wide, bore an inch hole through it, force it edgewise between the jaws, and having diluted the oil with soap-suds, or other liquid, force it down his throat with a syringe.

BARREN COWS.

Messrs. Editors—I noticed an article from Mr. Hezlep on barren cows. When his cow is again in heat, bleed her to near *fainting*, then give her half an ounce of laudanum and let the bull to her immediately. I have known this experiment to succeed in many instances. If it does not succeed, he had better feed his cow at once.

Wm. H. Sotham.

HEAVES IN HORSES.

Moistening the hay or grain for horses which have the heaves, has a good effect. We see a communication on this subject in the Wilkes-Barre (Pa.) Advocate. The writer says he had a favorite horse which was much affected by this disorder. He happened to have a common horse-pail about half full of white-wash. He filled the bucket with water, and left it to settle. He moisten- with this water two quarts of corn-meal, morning and evening, which he gave the horse—filling up the bucket with water occasionally. In less than a week, a change for the better was manifest in the horse, and about two years after, he sold him as perfectly sound.

Blind Teeth.—P. H. B. says he had a mare a few years ago that became blind, or nearly so. On examination he found blind teeth, and took them out. One eye got well, but the other remained blind.

Remedy for Hoven Cattle.—To a quart-bottle of cold water, add a tea-spoonful of spirits of hartshorn: drench the animal with the same; if not relieved in two hours, repeat the dose. This remedy has been frequently tried and seldom known to fail.—*Eng. Paper.*

THE STUDY OF AGRICULTURE.

Messrs. Editors—In that valuable work, "The School and the Schoolmaster," may be found some statements showing that in manufacturing establishments, the productiveness of labor is materially increased by the employment of educated workmen. If this is true in manufactures, it must be so to an equal or greater degree in agriculture. In manufactures, the division of labor is carried to a great extent; a single workman has but a few distinct operations to perform, and by frequent repetition, he soon acquires dexterity in the department assigned him, though his mind may be void of culture. In husbandry, the division of labor is more limited; one man performs a large number of operations widely different in their character; and hence, there is occasion for a more extensive exercise of the reasoning powers, and more ample room is afforded for the application of diversified intellectual acquirements.

We have been told that in this country, only one pupil in twenty goes higher than the common school. It is manifest, therefore, that seminaries established for the special purpose of teaching agriculture and its kindred sciences, will not confer their direct benefits upon a very large proportion of the farming population; though it must be admitted that the indirect advantages will be felt by the whole community. The great body of our farmers must depend on the common school to obtain the ground work of their education; and the superstructure must then be reared by persevering application during the leisure moments which every one can command, particularly on the winter evenings.

The day has mostly gone by, when the farmer who consulted books for information respecting his employment, was a subject of stupid ridicule. It is now generally admitted that the business of husbandry, may derive valuable assistance from a more faithful application of scientific principles. I believe the public mind is sufficiently prepared for the introduction of agricultural science, as a branch of study in the district schools throughout the State. Many years ago, this measure was recommended by De Witt Clinton, whose enlightened views, as is common with great minds, were in advance of the times in which he lived. The general introduction of this study into the schools, will appear to be an object well deserving the efforts of the town and county superintendents, when it is considered that so large a part of our population are farmers. The improved condition of these institutions of learning, which is confidently expected to result from the vigorous system of supervision now adopted, would undoubtedly make room for the new study, among the larger boys, without detriment to the branches hitherto pursued. In the first place, we must have a suitable text book. My acquaintance with agricultural works is not extensive; but of those which I have examined, Gray's "Scientific and Practical Agriculture," seems to be the best adapted to our purpose. As stated in the preface, this book was prepared more particularly for academies and seminaries of the higher class, and it may not be just the thing needed in our common schools. A work on this subject, for general use in the common schools, should contain only the most important outlines; for if we attempt too much, we are in danger of failing entirely. Whether Mr. Gray's book sufficiently answer's the above description, I leave to the judgment of others. It is certainly a valuable production; and the occasional moral reflections are exceedingly appropriate. If there is any work in the market, better adapted than Mr. Gray's, for common schools, I should like to have it named.

If it should be thought that a text book on agriculture could be prepared, better fitted for the use of common schools than any of the works now before the public, would it not be a good movement for the State Agricultural Society to offer a premium for such a book? If an extensive effort should be made to bring this branch of learning into the schools, it would be of vast importance to have a first rate text book to begin with. A work issued under the auspices of the State Society, would be likely to meet with favor; and perhaps the early attention to this subject, by that association, would effectually prevent, in respect to agricultural science, that diversity of text books which is the cause of so much embarrassment in other departments of learning.

Le Grange, Dutchess co., N. Y. A. R. McCord.

LEASING FARMS.

Messrs. Editors—The practice prevails to some extent, of letting farms to tenants, and receiving in the shape of rent, a portion of the produce in kind, say a third, half, or two-thirds, varying with the amount of stock, seed, &c., furnished by the proprietor. This practice has engaged my attention for some years past; and I am constrained to say, that I think it ministers to the inherent indolence of those who are in the habit of taking farms in this way; impoverishes the land, and is an effectual bar to all improvement; for it is not to be expected that they will expend money or make much exertion where they are not to reap the immediate benefit. The landlord who thus lets his farm, will suffer the mortification and loss of seeing his farm ruined in a few years, and of receiving a *very small interest* on the money invested; and the tenant who follows this method of getting a living, will generally become a poor shiftless tool, and never be in a thriving condition. I speak from experience and pretty extensive observation on this subject; and the conclusion I have arrived at is, that every man qualified to work a farm properly, with industry and integrity sufficient to justify the confidence of others, will be sure to have a farm of his own. The practice, then, should be wholly discouraged and abandoned, both by landlord and tenant. Why should a man in our free country, where land as rich as the sun ever shone upon, can be had for $1,25 per acre, be willing to live in servile dependance on others all his days? Let him become the owner of even a few acres, and cultivate them in earnest, and he becomes at once *a man*, takes a higher stand in the scale of society, and feels that he breathes in a new atmosphere. He feels a stimulus to exertion unknown before, has *a home* for his wife and children, and prospers even beyond his hopes. But, says one, "I *must* take a farm for a few years, till I become able to purchase for myself." The fact is, he is seldom any more able at the end of three or five years, than at the beginning; and the landlord, I am quite sure, reaps but little benefit, and is compelled to see his farm deteriorating every year. Briars and thistles spring up, the bushes around stumps and in the corners of fences are uncut, the fences receive little attention, and the land is skinned and exhausted by constant cropping.

Capt. Barclay, in his miscalled Agricultural Tour in the United States, remarks upon this practice with much severity, but urges the propriety of letting farms on long leases. This may do in England, where land is valued at from $200 to $500 per acre, and mostly in the possession of the nobility. But in this country the system never has worked well; it is ill adapted to the genius of our institutions, and to form and sustain the character of an independent American citizen. Besides, such tenants as he speaks of, cannot be found; all such will be found working their own farms. The land in some parts of our country, even to the extent of some whole townships, has been worked for a series of years on long leases, but the inhabitants as a whole, have not been prosperous; and the proprietors have not realized the interest of eight dollars on land worth thirty dollars per acre. If these statements do not correspond with the experience and observation of others, let them speak out and give us the facts in their possession. H. A. P

A HINT.

Encourage your correspondents by all means, when ever they give a prescription or recipe for any disease of man or beast, never to say *some*—or a *little*—or make a strong or a weak solution. Such recipes are not only useless but vexatious, if not detrimental; beg them always to say *how much* of every thing. Let the *exact proportions* be given. I. S. S.

It is in agriculture, as in every part of creation, a wise and paternal Providence has inseparably connected our duty with our happiness.

FOOD FOR STOCK DESIGNED FOR SERVICE AND SLAUGHTER.

[The following paper which was read by Mr. E. N. Horsford, at the 4th Agricultural Meeting at the old State Hall, Albany, Thursday evening, April 4th, has been furnished at our request for publication in the Cultivator.]

I. It is well known that working cattle and horses perform given amounts of service with less exhaustion when fed upon grain, than when fed upon hay or potatoes.

The reason is this. All labor consists in repeated muscular contractions. No muscular effort can be performed without the expenditure of muscular fibre. Muscular fibre is composed of several elements, one of which is nitrogen, and the substance is said to be a nitrogenized compound. Nitrogenized compounds are supplied to the wasting muscle from the blood. The blood is supplied with nutritive matter from the stomach. The stomach receives its supplies from the food which the animal eats.

Grain and hay and carrots, turneps, potatoes, pumpkins, &c., differ from each other in chemical composition. The grains contain more of the nitrogenized compounds, which are consumed by the active muscle, than the potatoes and kindred agricultural products.

These nitrogenized compounds have been found to be very nearly the same things in the proportions of the elements which form them, in grains and vegetable productions generally, that they are in the stomach, the blood and the muscle. In other words, the matter to be expended in labor is formed in plants and passes to the stomach and floats in the blood, and is secreted to form muscular fibre, without any change.

Some vegetable products contain more of this matter than others, and are therefore more profitably employed as food for working cattle and horses.

The destruction of muscular fibre which takes place with each contraction, and the consequent fatigue, may be illustrated in this manner.

The muscle is a series of parallel fibres. These fibres are made of little particles arranged side by side, or end to end, all of which attract each other. Those immediately contiguous, attracting each other more strongly than those at an interval asunder. If now some of the particles be withdrawn, the contractions among the remaining portions of the fibre, are less effective than they would be if the sections were not interrupted; because the attraction at the ends of the sections is weakened by the increased distance. If the chasms were filled by the deposition of new particles from the blood, the same effort with equal energy may be repeated; and if the blood were an exhaustless reservoir, the nitrogenized compounds might be as constantly supplied to the wasting tissues as muscular effort should require. But at the close of the digestion of a meal, the supply of nitrogenized compounds is in a measure arrested; and the quantity in the blood, being a fixed quantity, determined by the kind and amount of food eaten, will in process of time be exhausted. The inability to muscular effort arises from consumption of muscular fibre, and exhaustion of nitrogenized constituents of the blood. The fatigue is the natural pain which accompanies this condition of a muscle.

This explanation, though gross in comparison with the delicate and elaborate processes constantly going on among the organic tissues, may not be altogether without service in enabling us to comprehend the demand which labor makes upon the nitrogenized and other compounds—makes upon food which contains these essentials. Other organized substances are expended in labor, and must be replaced through the blood from the food, such as the earthy matters of which bone is composed.

Some kinds of food contain these essentials in larger quantities than others, and will therefore be more profitably grown and consumed.

II. It is also well known that cattle and sheep *fatten* more rapidly upon some substances than upon others, and that the food which will sustain much physical labor, is not necessarily the food that will fatten most expeditiously.

To know what kinds of food will most advantageously increase the flesh, the mere fat of stock designed for slaughter, and what admixtures of the two kinds of food are best adapted to sustain a good coat of flesh and yet permit vigorous service, is obviously of no small importance.

Prout, anxious to know what kinds of food and what proportions of those kinds were best adapted to the physical development of animals, commenced his investigations by an analysis of the human milk. He found it consisted of three substances dissolved in water; one of these containing nitrogen, and the other two destitute of nitrogen.

The nitrogenized substance is called *caseine*, and is the basis of cheese. The other two substances were *sugar of milk* and *oil*.

The oil is separated from the other two by agitation, and the particles aggregate in the form of butter.

The sugar gives the sweetness to new milk, and in the fermentation which succeeds, gives rise to the acid principles observed in milk after standing a day or two.

The caseine or basis of cheese being the only organic principle that could form muscle or tissue of any kind, because the only one that contains nitrogen, the other two substances must have another office to perform.

The oil of the milk is deposited in the form of fat, around the muscles and under the skin, and the sugar, except a part of it, being converted into fat, is gradually resolved into the various secretions, tears, mucous, saliva, perspiration, &c.

The use of the oil and sugar as types of the two great classes of oleaginious and saccharine food, have been made an interesting subject of investigation, and shown to be the source of heat in the animal body.

The use of the caseine as the type of the nitrogenized or albumenous compounds, has already been referred to. It makes the muscle, the tendon, the tissues, brain and integuments.

The appetite demands an admixture of these. Bread is chiefly composed of starch and gluten—substances allied to sugar and caseine. Civilized men, every where, overspread the piece of bread with butter or oil, that the three kinds of food may be mingled. Rice must be eaten with butter or sugar. Potatoes with gravy, which consists of the expressed nitrogenized juices of meats. A meal cannot be made, the laborer feels, without meat for the nitrogenized constituent, the *caseine;* potatoes or rice or bread for the saccharine ingredient, the *sugar;* and butter or gravy for the oleaginous constituent or the *oil.*

The student, whose muscles make no expenditures, thinks the meat non-essential. He can live on bread and ale.

The Greenlander who fears the severity of his high northern latitude, thinks oil the great essential, and devours pure fat and tallow with a relish akin to that of more southern men for sugar.

To return. Some kinds of food are better adapted to fatten cattle and sheep. Why? Because they contain more oil.

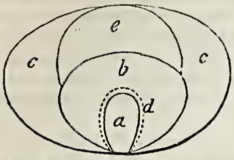
Some are better adapted to sustain cattle in labor. Why? Because they contain more of the substances expended in service.

III. It is not only true that different kinds of food contain in unequal proportions, the caseine, the oil and the sugar; but also true that varieties of the same grain have them in varying proportions, and the same variety of grain has them in unequal proportions if grown upon soils of unequal fertility; and even in two successive seasons, one season being adapted in the amount of its sun shine and dew and rain, to advance the crop and bring out a large return, and the other with its cloud and mildew and drouth fitted to shrivel the stalk and starve the kernel.

The grain of corn may be dissected so as to display the several principles of which it is composed.

The cotyledon or embryo, contains the earthy matters, and most of the nitrogenized substances that contribute to the formation of the organic tissues in general.

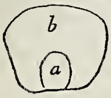
The circle immediately around the cotyledon contains a salt of a per-oxide of iron.* This is to serve in coloring the blood. The bulk of the seed is composed of starch and oil. The oil goes to fatten, the starch to supply matter for various secretions, and to some extent to form fat. Mingled with the oil and starch in some varieties of corn, is a third nitrogenized substance, called zeine.



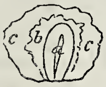
Section of grain of corn.

a. Cotyledon.
b. Starch.
c. e. Oil—sugar—zeine.
d. Salts of iron.

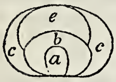
In the associated diagrams, several varieties of corn are presented, and the relative proportions of the several substances that compose them.



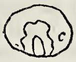
Tuscarora corn.



Sweet corn.



Northern yellow corn.



Pop corn.

In the use of these varieties of the same grain, it is easy to see that given weights of each might be profitably employed, if different objects were to be accomplished. They could not all be employed to fatten with equal advantage.

If it be desired merely to fatten an ox, he should be fed with that corn or grain which in 60 lbs. contains the most oil. If he is to be worked, he should be fed with corn which contains the largest cotyledons, for they contain the capital for labor. If he is to be merely inflated, without producing either fat or muscle, let him be fed on starch and water, or on a grain whose cotyledons are small, and in which the oil is wanting.

From what has been said, how essential does an analysis of the different kinds of grain become, that it may be known, which naturally contains most starch, most oil, or most gluten? And that the essentials of soils that are to produce those grains, be known, that the deficiencies may be supplied or noxious ingredients neutralized?

In other words, how manifestly important that science be interrogated upon subjects of such vital interest to the agricultural community, as the raising of stock and the growth of crops.

SOWING CLOVER SEED—CURING HAY WITH SALT.

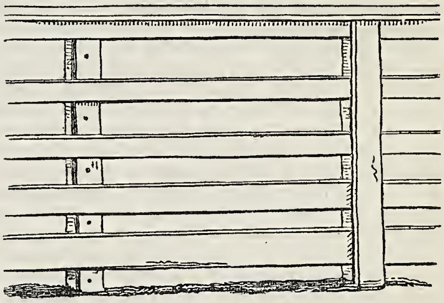
Messrs. Editors—On reading Mr. R. L. Pell's letter in the Cultivator for March, (page 97.) I take up my pen to show that some of his opinions are wrong, and some of his practices are actually *cruel*. First, he says, "when preparing meadows or upland, I usually seed on wheat, sowing in the full half a bushel of Timothy seed to the acre, which is limed at the rate of three hundred bushels, and the following spring, after a moderate fall of snow, sow one bushel of clover seed," &c. Now, if Mr. P means one bushel of clover seed to the acre, (and the letter reads so,) this is altogether wrong; as half a bushel of Timothy seed, and 5 pounds of clover seed, would be sufficient for any land I ever saw in this country. After telling the time he cuts his grass, he says, "the grass thus cut is drawn immediatety into the barn, and *one bushel* of fine salt spread by hand over each alternate layer composing a *ton*." Now I maintain that the quantity of salt he puts on actually *punishes* the poor animals that have to eat the hay, in a cruel manner. Yet eat it they *must*, if they have nothing else, or *starve*. Some 14 years ago, I read in some paper, this mode of curing hay, and I tried the experiment by commencing to feed 612 sheep with hay so cured. It took me all of an hour and a half, each day, to pump water for them, and then, after drinking till they were like to *burst*, they would, in cold days, stand and shiver for hours; and I believe, if I had not changed their feed to something else half of the time, that so much salt would have killed a number of them.

I make no doubt that Mr. Pell is honest in his intentions. I am altogether unacquainted with the gentleman; but I think he must be one of those farmers that tell men to do so and so, but who neither helps do it, nor sees that it is done, else he would see the impropriety of sowing a bushel of clover seed to the acre, and salting his hay so *unmercifully*.

I will give you my mode of curing hay. When the crop is heavy, I spread it as soon as cut, if the weather is good, and let it lie until it is pretty well wilted, then cock it, and let it cure in cocks, only turning them over to let them have an hour or two of sunshine before loading them. If the crop should be light, I let it wilt in swath. When drawing in, I put about a quart of salt to a wagon-load, which is sufficient salt for the sheep while eating the hay. John Johnston.

P. S. I received Mr. Pell's letters in answer to my inquiries about charcoal, for which I return my thanks. If I live, I will send him some seed wheat of both kinds, in time for sowing. J. J

New Geneva, March, 1844.



STRONG BOARD FENCE.

The common board fence, made by naling horizontal boards to posts, is often broken by the failure of the nails. This difficulty is partially obviated by nailing an upright face to the post, consisting of a piece of board of a length equal to the height of the post, outside of the horizontal boards. A method, scarcely costing any more, by which the strength and durability of the fence is admirably improved, consists in placing small pieces or blocks a few inches square, in the spaces, on the post, between the boards. The whole thus forms a smooth surface, to which the facing board is fastened, and the fence boards thus so completely secured to their place, that their removal is rendered impossible, while the fence remains upon the post. The blocks thus used for filling up, may consist of small fragments which are otherwise wasted. The above figure represents this mode of construction; the right hand post showing the blocks in place before the facing is nailed upon them, and the left hand, the whole completed. J. J. T.

PROFITS OF POULTRY.

Messrs. Editors—Having previously kept only the common kind of fowls, Mr. R. procured last year, a pair of crested Polanders, making, with those we before had, 28 fowls. We killed some occasionally, till the chickens were large enough to be eaten, when we had 20 old ones left. We raised over 100 chickens—half and full bloods together. Our early pullets commenced laying in the fall—none of them wanted to set. According to our account kept, we sold from Jan. 1, 1843, to Jan. 1, 1844, 1,866 eggs, and received $19 for them. We kept no account of food consumed, but gave a liberal supply.

Perhaps I ought to apologize for thus troubling you; but we have had your Cultivator so long in our family, that it scarcely entered my mind while writing, that *personally* we are strangers. Yours respectfully,

Prudence Reynolds.

Stamford, Ct., Feb. 24, 1844.

---

* Dr. Jackson's paper before the Assoc Amer. Geologists and Naturalists

DETRUNCATION OF THE ROOTS OF PLANTS.

MESSRS. EDITORS—The Jan. number of the Cultivator, has induced me at this time to make a few remarks upon the cutting of the roots of plants, which our friend Dr. Cloud, admonishes his neighbors upon doing, and as I may have to traverse partly the same ground that I have heretofore, I hope that yourselves and your readers will excuse any repetition, if such should be found necessary. I have heretofore given two laws of nature, upon which I supposed Mr. Comstock based his improved system of "Terra-culture;" and in referring to these, I have no other apology to offer, than their importance to our every day work upon our farms; for if in nature, all arable lands are covered with vegetable growth, is it not evident that our practice should conform so far towards her example in this respect, as to keep our soil as well covered as the nature of our crops will admit. Do we attend in this respect, to nature's teaching, in our hoed crops? I think not; they are generally planted at such intervals, seed from seed, as to admit of luxuriant growths of weeds—which it appears to me nature intends for a protection to the soil—and these weeds have to be kept in check, by the frequent use of the hoe or plow, or they would otherwise injure the crop. In eradicating these denominated pests, do we not disturb and injure the plants we are anxious to grow? there is a law or order of nature, requiring both in the vegetable and animal kingdoms, a certain maturity of growth and distention and completion of absorbent and secretory vessels, before a plant or an animal is capable of reproducing its kind by seed, and my impression is, that there is generally an extensive depredation committed by the tiller of the soil, upon plants, abusive of this law, and with your permission, I will make a few brief remarks in regard to injuries done to the roots, by disturbing and cutting them with the plow, &c. It has been said, long since, I believe, but I cannot say by whom, that the more mouths a plant has, the greater its growth, and this I think, we will all admit; but to obtain an increased number of mouths, it was proposed to cut and lacerate the roots, so that they might branch out and thereby form more mouths, and these being pushed into new situations in the soil, was considered highly advantageous; this in some districts of our country, is a popular error of the present day.

How far the cutting of the roots would be conducive to the growth of a young plant, is not my present purpose to inquire; but at the time the pubescent state of the plant is attained, and possibly before this time, every root that is cut lessens instead of increases, the number of mouths or absorbents for the use required by the farmer. At this stage of growth, the farmer wants a deposit of matter for seed or fruit, and the absorbents of the newly formed succiferous roots, do not appear to furnish this matter to the plant. The new roots or rootlets must have time to pass from their papescent state, to one of a denser medium before they can be organized for the conveyance of matter for seed or fruit, and during this period, the upper part of the plant must suffer in proportion to the injury, and it is very doubtful whether any of this matter is conveyed through the original channels of all plants, as for instance, a depredation of this kind committed upon the apple tree, induces new shoots from the trunk, or from some one or more of its main branches, instead of any accelerated increase of the previous growth, or if the end of the root cut off is drawn to the surface, a new plant is there formed, and the injury on a good soil, is not otherwise perceptible in the woody fibre, unless these shoots or sprouts are not sent forth by nature; in that event, some of the branches go into decay, and this is more particularly the case with old than younger trees, for like the animal system, the vigor of youth is capable of sustaining disease, that would be vitally destructive to old age. The corn plant is capable of overcoming an injury to the root, in a great degree if not wholly, while young, by the formation of a new plant, which we denominate a sucker; but this plant in a more advanced stage of growth, refuses to throw up suckers; what then is the result of the injury? does the root go into decay, or does it communicate disease, by conveying the papescant matter, afforded by the new succiferous roots, into the body of the old plant, and the vital principle being unable to reject it, does it change the requisite juices of the plant into an unhealthy state? My own conjecture is, that the new roots do convey extraneous matter, that the plant upon poor or medium soils is unable to reject, and produces a disease that hastens the plant into early maturity and decay and thereby preventing the proper elaboration of matter for grain; but upon soils producing a rapid and luxuriant growth, gives such vigor to the plant, that the vital principle finds no difficulty unless the injury is very extensive, in rejecting all matter foreign to her wants, and the loss felt by the plant, of the root cut off, nature soon overcomes by an increased absorbent power given to the other roots; therefore, plants are less injured by roots being cut upon rich land, than upon poorer land. Upon rich land, and when the plant is making or preparing to make, either fruit or seed, an injury to the roots produces a slight cessation in the growth; but this soon reassumes its work, and a casual observer would not notice that any change or cessation had taken place.* But upon poor land, or land deficient in an abundant supply of material for the immediate wants of the plant, the injury soon becomes evident in the upper part of the plant, either in its seed, fruit, or woody fibre.

I am strongly impressed with the belief that the fungus growing upon our cultivated plants, is frequently from this cause; that is, the extraneous sap proceeding from an injured root, is thrown out upon the upper part of the plant and forms a fungus; but my experiments for this purpose, are not sufficiently full to admit of my expressing such an opinion as I would desire. I wish to be understood in regard to this fungi, as not taking in the whole cryptogamia class; but only such fungus as affects our agricultural productions. As this is a subject worthy of research, will not some of your learned subscribers interest themselves for the public good, by making suitable experiments to ascertain whether this suggestion is correct. I am aware that much of this fungi, has been attributed to animalculæ; but from whence does these animalculæ spring, are they not the effect, instead of the cause of these fungi? With much respect, your friend,

Ararat Farm, Jan. 9, 1844. LYTTLETON PHYSICK.

MANURES.

MESSRS. EDITORS—One of the most important subjects to the Long Island farmer, is the making and management of manures. It is true a decided improvement has been made upon the old fashion of foddering cattle in the open field, by substituting snug yards with hovels sufficiently large to protect the cattle from storms; but this does not prevent the most valuable parts of manure from leaching off and wasting during heavy rains. I would advise all who have advanced no farther than this, and I know there are many, to have one animal stabled every night through the winter, and then when the manure is carted out, to spread one load from the stable adjoining, an equal quantity from the yard, and witness the difference; my word for it, it will be found that the latter, like the corn which I spoke of in another communication, has been soaked too much.

With horses, probably the old method (of allowing the manure to remain in the stable as long as the horse can climb in at the door,) is as good as any for the purpose of making manure, but as standing and sleeping upon the fermenting manure is sadly uncomfortable to the animals, it is a sufficient reason for the change which has been made. The general practice now is, to throw out the manure once a day and allow it to collect in a large heap until wanted for use; in this way, its enriching qualities are much impaired both by leaching, and the escape of gases during fermentation. A decided improvement will be found both in quantity and quality, by having it drawn out once a fortnight and put in a snug heap in the field where it is wanted for use, covering the heap each time with a thin layer of dirt, plaster or swamp muck as may be most convenient or desirable.

---

* This check in growth can be readily seen in the corn plant, by taking two stalks of equal growth and forwardness, at the time the tassel is just discovered, at which time the brace roots appear; by cutting these off, or any other roots, the difference in growth is soon discernible.

The above is not mere theory, but has all been tested from worst to best in the practice of one who took his first lessons in farming at the plow-tail, and who feels happy in acknowledging that for whatever advantages he may have derived from these and other improvements, he is mainly indebted to yours and other agricultural publications. Respectfully yours, K.

IRRIGATION.

In answer to the call for information on this subject, by our correspondent J. S. S., Alfred L. Kennedy, Esq., has sent us the following extract from a Lecture on the Agricultural Utility of Water, which he delivered before the Delaware County (Pa.) Institute of Science, Dec. 1843, for which he will please accept our thanks:

"The practice of irrigating grass lands by means of the water from springs and brooks, is one of the most frequent, convenient and efficient means of fertility possessed by the farmer. It requires no expensive machinery, and is of the most simple application. It has therefore found favor in the eyes of practical men; and the wonder is not, that it should prevail so extensively on grazing tracts, but that it should not long since have been applied to other crops. European agriculture furnishes us with the details of the plan to be pursued, and its most happy results. And the recent experiments of intelligent foreigners, should not fail to meet with a ready response from our own countrymen.

Water acts in irrigation, by keeping plants supplied with that moisture so favorable to their freshness and beauty. It also acts by dissolving certain gaseous bodies and conveying them to the roots of plants—by removing foreign matter which has been deprived of fertilizing properties. One of its chief means of utility, however, undoubtedly is the solid matter, which it holds in solution and imparts to the herbage.

This will appear perfectly reasonable, if we consider how springs are formed.

The rain in descending, dissolves of the gases contained in the air, more or less, and among those especially, that known to chemists as carbonic acid gas Falling upon the earth, it percolates through until it arrives at a bed of clay or some other impervious deposit. It there accumulates until enabled to force a passage to the surface. Throughout its subterranean course it is adding to its mineral contents, and gushes forth saturated, that is to say, containing as much as is possible of the rocks with which it has been brought in connection; whether they possess a silicious, aluminous, magnesian or calcareous character.

Although geology is very far from being a science of experiment, yet in the present consideration of its connection with agriculture, we are not left without witness to the position laid down that much of the utility of irrigation depends upon the solid matter dissolved in the water. I need but refer you to experiments made in Scotland, and apparently with great care, to determine this point.

The water, prior to irrigation, was analyzed, and yielded per gallon 10 grains common salt, and 4 grains limestone. The water after passing over 50 yards of meadow was also analyzed and found to contain but 5 grains common salt and 2 grains limestone in the gallon. One-half, or 5 grains of the former and 2 of the latter had been deposited by every gallon of the water, and granting that one hogshead passed in 24 hours over every yard in width of the 50 yards descent of meadow (a very moderate estimate) we have deposited over an acre in the same time $5\frac{1}{4}$ lbs. of the one, and $3\frac{1}{2}$ lbs. of the other, or 1890 lbs. common salt and 756 lbs. limestone per annum. What a slow and continuous marling or liming of our soil is thus almost insensibly produced! The better, because of being intimately mingled with the earth, and gently and constantly applied.

This view involves nothing to which the farmer can for a moment hesitate to yield assent. In fact it is in perfect consonance with his every day experience of the effects of lime and the alkalies.

Now it is not pretended that the proportions of the ingredients mentioned, will be the same in all springs, or that even the ingredients themselves will always be found, yet as water is seldom pure, but generally holds in solution what chemists term salts, whether of magnesia, soda, potash or lime, there remains no obstacle to the reception of the views advanced, throughout the greater portion of our wide spread country.

Again, as before stated, of all the constituents of the atmosphere, carbonic acid gas is the most readily dissolved by water. It imparts to the water of springs, their sparkling brilliancy and flavor; its presence is therefore well known. This gas thus dissolved, was presented by Sir Humphrey Davy to the roots of plants, and we have the most direct testimony of his experiments to assure us is a most efficient aid to vegetable growth. In this view, the most eminent scientific authorities since his time, have coincided. In irrigation, nature is but exhibiting on a magnified scale, the experiments of Davy, in constantly presenting to plants fresh portions of spring, i. e. of carbonated water. Now we need not pause here to discuss the *manner* in which this gas thus presented, is assimilated by plants. It is sufficient for us to know the *fact*, and we are then satisfied of another advantage of irrigation.

Nor must we forget that spring water sometimes contains one of the products of putrefaction, ammonia, and of thunder storms, aqua fortis or nitric acid. Both ammonia and nitric acid, theorists to the contrary notwithstanding, have been repeatedly proved to be fertilizers.

Whether we adopt the excretory theory, i. e. the theory which supposes that plants reject from their systems those substances which are injurious, and that this vegetable excrement in time poisons the soil contiguous to their roots; or whether we adopt it not, and say that soils become incapable of constantly reproducing the same vegetation, solely because of the abstraction of nutriment, we cannot but feel under obligation to water for yet another important service. If the former hypothesis be received, then irrigation removes the rejected matter from the roots of plants, and supplies its place. If the latter, then it removes or re-invigorates the non-fertilizing earth.

Finally, and perhaps most important. Throughout the existence of a plant there is no period save its early infancy, in which it is more susceptible to external injury, than that of flowering and fruiting. Nature makes her greatest effort and requires the most assistance as the plant's life, and the farmer's hopes approach consummation. Unfortunately, at this very season, the earth is not unfrequently hardened and parched by heat and drouth, and vegetation is incapable of drawing from the callous bosom of our common mother the much needed supplies. Then does irrigation act as a friend in need, by softening the soil, supplying it with air and moisture, enabling the tender roots freely to penetrate, and to absorb invigorating stores of nutriment. 'But,' says one, 'would the speaker have us irrigate our grain crops?' There is nothing unreasonable in the proposition—no reason why to them it should be less advantageous than to grass. Permit a reference to the fertile valley of Durance in France, remarkable for its products and for the industry of its inhabitants:*

"Amongst the very various rotation, wheat is frequently sown, keeping very nearly to the following method which I have seen practiced in Sicily:

"The period of sowing takes place in the beginning of November. The seed is sown upon the land which has been prepared and manured, or sufficiently improved by preceding culture. The ground is divided into ridges or beds from 3 to 6 feet wide, and each ridge is separated from its neighbors by a space of 10 inches opened to the depth of 2 or 3 inches by a single stroke of the hoe, in order to let the waters destined for irrigation pass off In spring, when the wind has dried the earth, when rain is wanting, the average heat exceeds 54 deg. Fah. The water is introduced into the spaces opened between the ridges, and it is retained there sufficiently long to pene trate through and through by filtration; but abstaining from all submersion which would thicken the earth and hinder vegetation. This irrigation which may be called subterranean is repeated, if it is perceived that the plants suffer by drouth, but it rarely takes place more than twice, and frequently is necessary but once.

---

* From M. Le Comte de Gasperin's paper in the Memoires de la Societe' Royal et Central d'Agriculture, as translated by Mr Boswell in the Journal of Agriculture, Edinburgh, Oct. 1843

"The beauty of the vegetation leaves the cultivator but one fear—the lodging of the grain; but notwithstanding this risk, the harvests are so fine and abundant that the farmers are not deterred from following it. When the harvest is gathered in at the end of June, the ground is laid under water, and after allowing it to sink in and dry for two or three days, it is plowed, and beans, potatoes and maize or Turkish wheat and millet are sown, which they treat in the same manner. The second harvests produced by the advantage of a soil that has been thus refreshed during the hottest months of the year, July, August and September, are of great value."

PHILOSOPHY OF WOOL NO. IV.

TRUENESS.

The quality of trueness of the staple especially enhances the value of every grade of wool in which it is found. It comprises an equality of the diameter of the fibre from the root to the point, and uniformity of the fleece generally. When the filament greatly lacks in this particular, it may be ascribed to an irregular and unhealthy action of the secretion of wool, which, in turn, must be attributed, in general, to abuses in management of the sheep. For instance, if the animal has fared kindly till the winter season, and then exposed to storm, and cold, and withal ill fed, the growth of that part of the fibre during this period, will be considerably diminished in diameter, proportionally weak, and when examined by the microscope, presents a withered appearance. On being turned to pasture, the fare being better, and the secretions again becoming healthy and abundant, an enlargement of the fibre follows; but it is greatly destitute, from the causes stated, of the quality of trueness, and therefore debases the value of the whole fleece. The weak and withered parts of the fibre are termed *breaches*, and injure materially every manufacture in which it is employed, the felting property being deteriorated, and the cloth having less strength and softness. The skilful stapler and wool-buyer will, on critical examination, easily detect this serious fault, and prize the wool accordingly. By pulling asunder a single fibre, the break will uniformly be confined to the *breachy* or withered point. This is termed *unsound* wool.

Although this description of wool is generally, as remarked, the result of bad management of the flock, yet it is common to all good sheep. With the Saxon and Merino, after the ewes, particularly, pass the age of eight or nine years, the yolk lessens in quantity, which is followed by comparatively a hard, inelastic, unyielding, character of the wool, with the strength and weight greatly diminished. Therefore, notwithstanding the singular longevity of these breeds, it is better to pass them over to the butcher, when arrived at the age mentioned.

Intimately connected with producing a sound and true staple, is the

INFLUENCE OF TEMPERATURE.

It cannot be doubted that equability of temperature is an important agent in perfecting the several properties of wool. The Spanish custom, continued for centuries, of driving the sheep in the spring to the northern and mountainous parts of the kingdom, which are there kept until the approach of winter, originated in part from the conviction that this theory was sound. Indeed, it is founded in the natural instinct of the sheep. Every one knows it is impatient of heat. In the midst of summer, in all latitudes where it is found, it will seek the most elevated points for the sake of the cooling breeze, and retire to shades to guard itself against the burning rays of the sun. In winter it will flee to a place of refuge from storms and cold. All this testifies strongly in favor of the correctness of the premises. But the question may be asked, what has the bodily comfort of the animal to do with perfecting the several properties of the fleece? The answer is every thing. If health and thrift are promoted by equability of temperature, the cutaneous glands are alike healthy, and a regular and even growth of the fibre naturally follows.

But strictly speaking, equability of temperature is nowhere to be found; therefore, in our rigorous and changeable climate, the fibre of wool must ever present a greater or less inequality of diameter between its extremes. It is remarkable that the point has always the largest bulk. This is the product of summer, after shearing time, when there is a repletion of the secretions which produce the wool, and when the pores of the skin are relaxed and open, and permit a larger fibre to protrude. The portion near the root is the growth of the spring, when the weather is getting warm; and the intermediate part is the offspring of winter, when, under the influence of the cold, the pores of the skin contract, and permit only a finer fibre to escape.

An author remarks, "The variations in the diameter of the wool in the different parts of the fibre will also curiously correspond with the degree of heat at the time the respective portions were produced. The fibre of the wool, and the record of the meteoroligist will singularly agree, if the variations in temperature are sufficiently distant from each other for any appreciable part of the fibre to grow."

It legitimately follows from the foregoing observations, that a hot climate is unfavorable to the continued productions, for any length of time, of *fine wool;* and therefore, the opinion that wool of the Saxon and Merino can be grown in every degree of latitude in the United 8tates, without deterioration, is obviously fallacious.

In confirmation of the general fact as to the influence of climate on wool and hair, the remarks of Mr. Hunter, an English author of high authority, are quoted: "Sheep carried from a cold to a warm climate soon undergo a remarkable change in the appearance of their fleece. From being very firm and thick, it becomes thin and coarse; until at length it degenerates into hair. Even if this change should not take place to its full extent in the individual, it will infallibly do so in the course of a greater or less number of generations. The effect of heat is nearly the same on the hairs of other animals. The The same species that in Russia, Siberia, and North America, produce the most beautiful and valuable furs, have nothing in the warmer climates but a coarse and thin covering of hair."

The above may be questioned by some, and Australian wools referred to as proof that the Saxon and Merino have vouchsafed to them some peculiar qualities of adaptation to every variety of climate, It is hardly necessary to say that this opinion is grounded upon a want of accurate and critical knowledge of physiological science, and other information bearing directly on the subject in point. The climate of New Holland or Australia, a British possession, is not hot but rather of a temperate character, and especially that portion of it where sheep are kept, being between, including the eastern point of Van Dieman's Land, the 43d and 32d degrees of south latitude. But notwithstanding its temperate and equable climate, compared with the more southern portions of our own country, yet Australia wools have deteriorated in fineness in comparison with the Saxon stock, from which many of the sheep in the colony originated. Although as recent as 1815, when the first exportations to any considerable extent were made from Germany, the fibre from a sample of picklock Australian wool now measures 1.750th part of an inch in diameter—the same as Spanish Merino—whereas, one from picklock Saxon is but the 1.840th. Considering the brief space of time, this shows a rapid decidence in fineness. Furthermore, a rapid deterioration in the felting property is equally manifest, the serrations being only 2400 to an inch, less by 150 than the average of picklock Merino, and 320 less than the same sort in Saxon. This fact confirms the observations of Mr. Hunter, and establishes the position that the climate of Germany, and the northern and middle States, with suitable protection in winter, as being the most conservative of the properties of extreme fineness and felting of wool. This subject may be further discussed hereafter.

The *felting property* of wool will constitute an important chapter, which will follow. L. A. Morrell

Lake Ridge, Tompkins Co., N. Y.

COMPARATIVE SHRINKAGE OF SAXON AND MERINO WOOL.

Messrs. Editors—A correspondent of yours, signing himself "Wool Grower," publishes in your last number, a letter from Samuel Lawrence, Esq. in which it is stated that "*American Paular* (merino) *wool*," will shrink from 40 to 45 per cent in scouring. As this is a much greater loss than the public would be prepared to expect, it may be inferred that other wools do not shrink to any think like an equal extent. To prevent any such misapprehension, I give you the following extracts from letters received by me from Mr. Lawrence.

Oct. 16th he says:—"American Saxony wool washed in the usual way will shrink from 33 to 37 per cent. We have just scoured Mr. Morrell's wool of Tompkins Co., and it yields 66¼ lbs. to the 100. *The finest sort yielded but 62½ lbs.* This is considered one of the best flocks of Saxon wool in Western New-York, and the condition of the wool was very good indeed. American Merino wool *washed in the usual mode* will shrink 40 to 45 per cent, say an average of 42 per cent."

Oct. 28th he says:—"The difference in the shrinkage of Saxony and Merino wool is from 5 to 7½ per cent, when *equally well washed* on the back. The "dark ends" or "crust" on Merino wool do no injury to the staple, but cause it to shrink more than if the ends were clean."

Yours truly, Henry S. Randall.
Cortland Village, April 4, 1844.

MANAGEMENT OF COWS, &c.

Messrs. Editors.—I am not a first rate farmer, yet there are some things that I think I know a little about. I think I know that no other kind of stock should be suffered to run in the same pasture with cows; particularly hogs, for they wallow in the water, and spoil it for the use of the cows; and moreover, the mud that adheres to them when they come out of the wallow is carried over the grass, which renders it unfit for the cows to eat. I do not think well of a very frequent change of pasture for cows; for they will soon become so uneasy as not to be satisfied with the best you can give them. Let them have a range large enough so that the pasture will always keep ahead of them, and they will be satisfied and milk as well, if not better, than when their pasture is frequently changed. After harvest, when the grass is not so fresh, it will be well to change sometimes, but not very frequently. Cows that are giving milk, are great eaters; they also require plenty of water and plenty of shade in their enclosure, with salt about twice a week.

Breaking Heifers.—Many a promising heifer is rendered unfit for the dairy, by improper management in breaking to the pail. They should be allowed to run with the cows one summer before you expect to milk them, and be driven regularly into the milking yard, and those who do the milking should frequently soothe and handle them, and treat them at all times with kindness, and there will then be no need to drive them into a small pen and have them held or tied to a post, or coaxed with a "mess," &c., whilst they are being milked. All such practices are very apt to teach them some bad habit that they will never forget. I know of no animal that is more a "creature of habit" than the cow.

Horses.—It is sorrowful to see the abuse and cruelty that is practiced by some on this noble and useful animal. A great many valuable horses die yearly from improper treatment alone. Those who have the care of horses, should work them moderately, feed and water regularly, and give them salt at least twice a week. I believe that three-fourths of the diseases of horses are brought on them by improper treatment. Much has been said from time to time about the diseases of horses and their cures. I have always found it much easier and better to try to prevent, than to cure them.

Breaking and management of colts.—They should be treated kindly and taught a little at a time. First teach them to stand tied or hitched, and be sure that the halter is strong enough to hold them, for if they break the halter a few times, they will never forget it; and a horse can hardly have a worse practice than that of breaking loose whenever you hitch him. Next, they should be taught to lead well, for if they do not learn to lead when young, they will never lead well. They may be ridden a little at two and a half years old, if the weather is cool; in riding, always teach them to walk well before they are put to any other gait. Be careful not to scare them by throwing on the saddle, or in mounting. When you wish to break them to work, put them in a team with horses that will not baulk, and put on no more load than the rest of your team can draw. They should be worked a few days in one place and then changed to another; as by this means you may have horses that will work in any place you may choose, or have occasion to put them, and they will be doubly valuable for it. If your colts should be a little unruly when first geared up, never mind it—*do not strike them*. All young animals, (children not excepted,) can be managed best by the law of kindness.

C. H. Hall.
Bluerock, Muskingum Co., Ohio, March 5, 1844.

PRINCIPLES OF BREEDING.

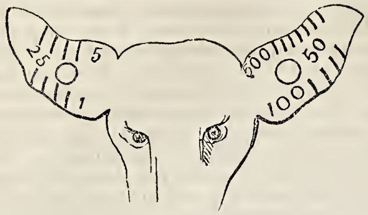
Messrs. Editors—I have noticed in some of the back numbers of the Cultivator, the rules of breeding as laid down by Cline, with which, if I understand them properly, I cannot agree. He says it is wrong to breed small cows to a large bull, or to use his own words, "crossing has only succeeded in an eminent degree in those instances in which the females were larger than the usual proportion of females to males."

My experience differs from this; and to sustain this difference, I will refer you to an extract from the agricultural tour of Count de Gourcy in the north of Scotland, a notice of which, I lately saw in the Cultivator. He says "Mr. Watson at Keylor, keeps about twenty of the mountain or Highland cows, which he breeds to a Short Horn bull, and it is astonishing to witness the results of this cross, of a *large male* with *small females. The success in every respect is beyond a doubt.*" In the second place, who has not marked the decided improvement in the progeny of a Short Horn bull and the Devon cow—"Indeed," says some writer, "I never knew any of these bulls put to any cow where the produce was not superior to the dam. But the cross which I advocate, and with which I am best acquainted, is with the Devon cow." And farther, it is known that the Rev. Henry Berry of England, is much in favor of this cross. And again, I have observed that the improvement made by crossing the Short Horn upon our native stock, is *most* perceptible when the cow is a small tight made animal; the calf, in that case, being more compact and finer formed, than the produce of a cow nearer the size of the bull. Now what I wish to know is this; how to reconcile this clashing between what are laid down as the true principles of breeding, and actual experience.

I have written this in the hope of eliciting from you a few remarks on the subject. B. H.
Georgia, March, 1844.

Note.—We do not suppose that the principles of breeding laid down by Cline, have ever been universally admitted, even among eminent stock-breeders. The point alluded to by our correspondent, is not settled. In England, we find the celebrated Short Horn breeder, Thomas Bates, opposed to Cline's theory; while the equally celebrated breeder of Herefords, the late John Price, was in favor of it. Our correspondent has mentioned the late Rev. Mr. Berry, as having been in favor of the cross of Durhams with Devons. We wish he had given us some reference to Mr. Berry's writings showing that he was in favor of this cross, as we do not recollect anything of the kind. We should expect a better formed progeny from compactly made cows, than from loosely made ones, whatever might be their size, especially if the bull was rather more loose in his make than he ought to be.

North Devon Ox.—An ox of the North Devon breed has been lately exhibited in England, which was 18½ hands high, and measures, as it is said, four feet from hip to hip, and is still growing.



REGISTERING SHEEP.

The above cut illustrates the German mode of ear-marking and regularly numbering the sheep belonging to a flock, so that each individual can be distinctly registered.

Each slit in the	lower rim of the	right ear represents,	1
do	upper	do	5
do	lower	left	100
do	upper	do	500
The central hole in the		right ear,	25
do		left	50

In the above figure

7 slits in the upper rim of the	left ear,	500	each	3500
4 do lower do	do	100	do	400
The central hole in	do			50
4 slits in the upper rim of the	right ear,	5	do	20
4 do lower do	do	1	do	4
The central hole in	do	1	do	25
				——
Number of the sheep,				3999

AN AMERICAN HERD BOOK.

The inconvenience arising from the want of a work of this kind is already greatly felt in the United States; and with the rapid multiplication of our herds, is continually increasing. There may now be estimated, at least two thousand thorough-bred Short Horn cattle on this side the Atlantic, distributed in the hands of perhaps five hundred different breeders. These animals, in most cases, have been selected from among the best herds in England, and imported at great expense; and their descendants widely disseminated into every State of our Union, and the Canadas. Strict attention has been given to their breeding, and great care bestowed to maintain their original excellence. The climate and soils of America have proved congenial to their growth, and from the rapidity with which they have multiplied, and their present comparative cheapness, we may anticipate that but few further importations will be made from abroad. Still, the decided advantages conferred upon one of the most important branches of our agriculture by the introduction of the Short Horns into this country, have distinctly established them as a race to be perpetuated in their purity; and the progressive improvement in American husbandry is a sufficient guaranty that they will hereafter maintain their exalted character in elevating the standard of American cattle.

So important was it esteemed by the Short Horn breeders of England to establish and record the lineage of their unrivalled herds, that in the year 1822 the first volume of Coates' Herd Book was published, containing the pedigrees of over 2,500 animals; and so strongly has the public mind sanctioned the utility of the work and its continuance, that three successive supplements have from time to time been issued, and another is now in the press, embracing altogether, a list of probably 12,000 cattle.

In the great mass of these, the American breeder has little interest; although from the absence of a domestic record, many of our citizens have encountered the inconvenience and expense of transmitting a list of their herds to England for registry. A moment's reflection will convince us of the absurdity of a perpetual dependence upon foreign records for the pedigrees of American stock; and the great expense of obtaining the entire English herd book, comprising five large volumes, at a cost of not less than forty dollars, are subjects not unworthy of consideration; add to this, the probability of errors in printing the registry at such a distance, where corrections can hardly be made, together with the possession of no greater assurance for the integrity of the records than may be found at home, and the propriety of at once establishing an American Herd Book, will be apparent.

A work of this kind has long been agitated by various gentlemen connected with cattle breeding in America; but no one has hitherto ventured the experiment, although earnestly called for by a numerous body of breeders.

Its demand then being conceded, it remains to be seen whether the public will sustain an effort to accomplish it. It is a labor involving industry, research and discrimination; and in its proper execution, demanding no ordinary degree of firmness and decision in resisting undue admissions within its pages. It may, perhaps, be deemed an act of presumption in the undersigned to assume this responsibility; but he can only answer that *some one* must undertake it, if it be undertaken at all; and having been a considerable breeder of Short Horns for many years, and more or less conversant with most of the principal herds of this country, he considers his observation and experience, together with a familiar acquaintance with the volumes of the English Herd Book, somewhat of a guaranty for the performance. Be it remembered however, that the task is not assumed without mature reflection, and after the repeated solicitations of several distinguished breeders in different sections of the United States; and if pursued, the co-operation of skilful and experienced individuals will be rendered. But for the integrity of its execution, the undersigned will be solely responsible.

As this work is not proposed in the anticipation of private gain, so neither will it be expected to involve pecuniary loss. It is therefore necessary to ascertain the extent of encouragement which will be given to it before proceeding; and for that purpose the undersigned respectfully asks the publication of this notice by the agricultural press generally in the United States and the Canadian Provinces, for which, together with a copy of the paper containing it, directed to him, he will present the proprietor with a copy of the work, if prosecuted.

He also requests all who approve the plan to write him, *post paid*, if by mail, previous to the first day of July next, stating the number of animals they propose to register, together with the number of copies they will take. If a sufficient number of responses are made to encourage the undertaking, the work will proceed; if not, it will be given up. The determination of going on with it, will be announced through the agricultural papers as early as September next, and those proposing to patronize the work will then be notified to forward their respective registers of cattle immediately, together with the necessary evidence of their correctness, that it may be issued as early as the spring of 1845.

As it is not expected that the sales of the book will more than pay for the printing and publication, a small charge for admission will be required, say from twenty-five to fifty cents for each animal, as the number may determine.

Well executed portraits of animals, the plates being furnished by the owners, will be inserted with the register.

The *full* pedigree of each animal will be given, running back through its whole extent in the English Herd Book, if thus furnished, together with its reference numbers, so as to render the American Herd Book a *perfect* record of every animal's genealogy.

An index containing the name and residence of every breeder whose cattle are registered, will be inserted.

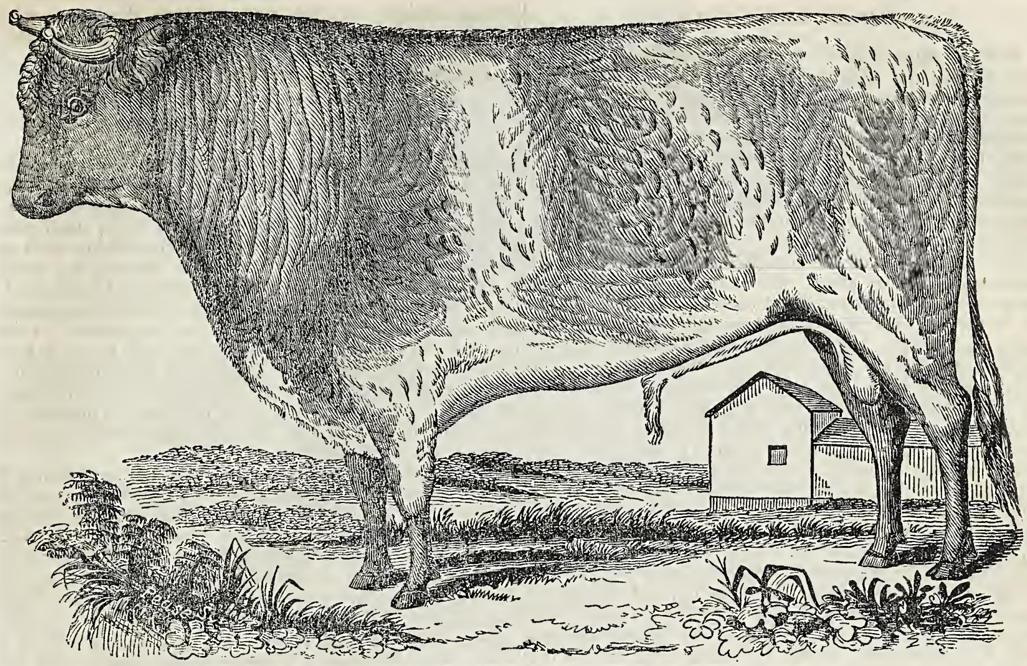
Another index will contain the name of every animal and the page on which it is recorded.

The work will be prefaced with a full and accurate history of the Short Horn breed of cattle, drawn up from the best English authorities, together with a particular account of their extraordinary productions both in the dairy and at the shambles.

It will be executed as near as possible, in the style of the English Herd Book, well bound, and delivered to subscribers at a price not exceeding three dollars a copy, either at New-York, Albany, or Buffalo, at their option.

Lewis F. Allen.

Black Rock, N. Y., April, 1844.



THE FULL BLOODED SHORT-HORN DURHAM BULL REMUS.

THIS noble animal of which the above (drawn from the original by Walton, and engraved by R. H. Pease,) is a fair likeness, but by no means flattered, is from the celebrated herd of Adam Fergusson, Esq. of Woodhill, Canada West; and is descended on the one side from the imported stock of Gen. Van Rensselaer, (the late Patroon) of Albany. He was exhibited at the State Fair in Rochester, in September last; but being then owned in Canada, was not entered for a premium. He was purchased by E. Mack, C. L. Grant and W. G. Goddard, of Ithaca, Tompkins county, with the sole view of contributing to the improvement of the stock in that section of the state, where he is still owned.

REMUS is a dappled roan. He is a large animal, weighing about 22 cwt.; clean limbed, well proportioned, and in all his points will compare favorably with any animal in the state. The following is his pedigree, as communicated by Mr. Fergusson:

"GENTLEMEN—I am happy to learn that the roan bull REMUS, has fallen into your hands, as I have every reason to think that he will give you satisfaction. Mr. Davis has a herd of splendid young stock from him, and the farmers around Mr. Davis have all been very much pleased with his service. I annex his pedigree:

REMUS, a roan bull (a twin) calved June 14th, 1839—sire Champion; dam Beauty. 1. *Champion* was got by Sir Walter, out of Dairy Spot. 2. *Sir Walter** was bred by James Chrisp, of Northumberland, England; sire by Bachelor, (1616,) dam Sprightly, by Barmton, (1677,) grand-dam by Waverly, (2819,) great grand-dam by a son of Washington, (674.)

2d. *Beauty** also bred by Mr. Chrisp, got by Snowball, (2647,) dam by Lawnsleeves, (365.)

3d. *Dairy Spot*, bred by Stephen Van Rensselaer, got by General Jackson, son of old Washington, dam Beauty, out of Red Lady, by Washington; grand dam Pansey, by Washington.

Washington and Pansey were both imported from England by the old Patroon.

I certify the above to be true and correct, to the best of my knowledge and belief. ADAM FERGUSSON.

Rochester, 22d Sept."

**Sir Walter* and *Beauty* were both imported from England by Mr. Fergusson. *Mayduke*, owned by L. F. Allen, Esq. of Buffalo, and to whom was awarded the first premium at the late Fair in Rochester, was got by Sir Walter and bred by Mr. Fergusson

FATTENING CATTLE ON POTATOES.

In answer to L. D. on fattening cattle with potatoes, I would say, that I have fed cattle on potatoes for over thirty years, and where they get plenty of potatoes, I seldom saw them drink water, even when it was close by them all the time. This season I fed two three year old ¾ Durham heifers on potatoes and pumpkins; a bushel of potatoes to the two in the morning, as many pumpkins as they would eat at noon, and a bushel of potatoes at night, with clover hay, what they wanted through the day and night. One of them suckled a calf until five months old—the white calf that took the second premium at Rochester—she was put dry in October; the other was put dry in October also. I fed them 68 days. The one weighed 802 lbs., the other 857 lbs. One had 80 lbs tallow; the other 103 lbs., exclusive of kidney—the one that did not suckle the calf having most. They very seldom tasted water, although they had the offer of it every day. They were not tied up, but run loose in a yard amongst 100 sheep. I never saw finer beef than they made.

JOHN JOHNSTON.

Near Geneva, 6th March, 1844.

BREEDING.

MESSRS. EDITORS—The following circumstance was related to me by Mr. Calvin Ward of West Richmond, N. Y. The names of the parties concerned I neglected to put down. In relation, he said that one of his acquaintances in the choice of two stud horses, one suited him every way except the color. The *color* of the one that struck his fancy was a *cream*.

In order to obtain a cream-colored colt from the bay horse out of his bay mare, he tried the following experiment: The cream horse was first used to tease the mare, which occupied some time. After putting blinders on the mare, the cream horse was taken out of the way, and the bay horse used to cover the mare, and not seen by her, but immediately returned to the stable, and the other led right in front of her, and was exposed to her view for some time. The result of the experiment was, in due process of time, the mare foaled a perfect cream colt, to the admiration and satisfaction of the owner, and his being the first one out of the many of the bay horse-getting of that color. S. W. J.

THE PUMPKIN CROP.

Messrs. Editors.—The pumpkin may be justly called one of the best articles the farmer raises. There are many different varieties of this vegetable, but we think there is none equal to the old-fashioned, yellow, field pumpkin, for yield and goodness. For producing rich milk, it is one of the very best articles that can be given cows. Fed raw to hogs, they are useful by increasing the appetite. They will fatten young fall beef, and give fatting oxen a better start in the fall than either potatoes or turneps.

The cultivation of the pumpkin is thought by many farmers a secondary affair. Hence the idea that they can be grown only in extraordinary seasons, when everything is favorable. But that this crop can be successfully grown with corn, we have abundant evidence—having never raised them separately but one season. The pumpkin will grow, and generally succeed well in any soil that will produce the corn crop successfully. They like a rich, warm soil, with plenty of stable manure to feed on, and will stand drouth as well as any crop. But there are some difficulties to be overcome in getting the crop up and out of the way of insects, (bugs, &c.) We have generally planted them at the time of planting corn; but there is an objection to this early planting, and that is, they may be cut off by a late frost. This was the case the two last seasons—frosts occurring about the first of June. After the young plants are up, and the danger from frosts is past, then comes the "tug of war" with the bugs. The little striped bugs come in swarms, and will in a short time, if left to themselves, destroy the crop. But in this case, "prevention is better than cure," and to prevent their attacks we sprinkle the plants, as soon as up, with plaster, and find the "varmints" do not like to meddle with anything that is whited with this substance. In case the plaster is washed off by rain, we sprinkle again, and continue to do so as often as is necessary till the plants are out of the way of these "pestifirous critters." Our crop the past season was planted with corn, and had just got finely up, when, on the night of the first of June, they, with the corn, were cut down by frost. The corn started again, but the pumpkins were a "dead set" at that business. We had a few seeds left, and a few days after the frost we stuck them down between the hills of corn. They came up well, and we took care to keep them covered with plaster, so that the bugs did not trouble them much. The space covered by the vines could not have been much over an acre, yet we gathered from it six large cart-bodies heaping full. To escape late frosts, we think the farmer would do well to delay planting till about the first of June, in this climate. The spaces at which they should be planted is important, as the vines extend a good distance. If planted with corn, we think every alternate hill in every third row will be thick enough—the vines will then cover the ground. Care should be taken not to obstruct the vines after they begin to run. If weeds spring up, pull them out by hand, or cut them out with a hoe. We have been in the habit of raising pretty large crops of pumpkins. Seven or eight years ago, the *seed* which we saved from one crop measured *ten bushels*—which we sold to Mr. Leman Stone, the seedsman, at a dollar and a half a bushel. The seed saved from the last crop was two bushels, which sold readily at two dollars a bushel.

Now if any of your readears can tell a tougher pumpkin story than this, which, by the way, is no less *true* than *tough*, I shall be glad to hear it. L. D——d.

Derby, Conn. Jan. 22, 1844.

THE CUT-WORM.

Messrs. Editors—I see in the October No. of the Cultivator a writer says, that a "burdock leaf wound around the stem of a cabbage will prevent the *cut-worm* from destroying the plant." But the writer seems to think every farmer is not fortunate enough to have that plant on his ground. Where *burdock* cannot be obtained, perpaps a hickory leaf can, and that I think will answer every perpose. I have seen a hickory leaf repeatedly used, and never knew it fail to preserve the plant. If the leaf is put on narrow, and the plant set low, the worm will sometimes crawl up and cut off the plant above the leaf; but it is not common. Jacob Hitchcock.

Dwight Mission, March 20, 1844.

TO DESTROY NUT GRASS, &c.

Messrs. Editors—I see that a subscriber asks for information how to kill nut grass. If he means by it, that which has proved so great a curse on the coast of Louisiana, I would suggest as an experiment that a small plot of ground, say a square perch, be taken, and sow on it at the rate of 40 or 50 bushels of salt to the acre, and mark its effect, if it has that desired. I think that thousands of acres on both sides of the Mississippi would be reclaimed and be made even more fertile than at present. This much I can venture to assert: that it will not only kill that or any other grass that appears for some distance below the surface of the ground, but whether it will extend its salutary effects to the bulb or not must be proved by the experiment. It has this advantage: that it can be tried at but little expense.

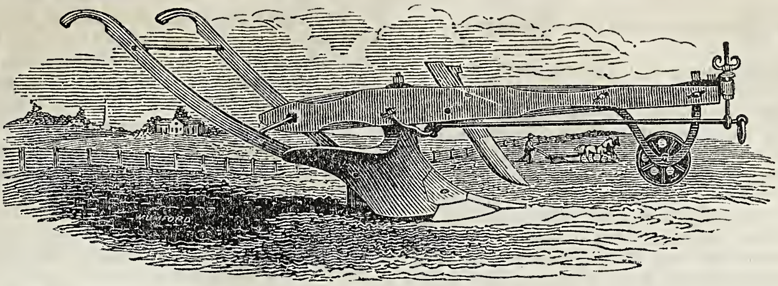
Acclimating Cattle.—Whilst I am scribbling, I might suggest to a Southerner who requests information in last year's vol. about acclimating the improved breeds of cattle, that my opinion of the great difficulty that occurs, does not arise so much from the change of food or climate as the state of irritation and fever that they are kept in by the incessant attacks of the horse flies and mosquitoes, so that they can get no rest by day or night. Now I think that may be obviated by sponging them in a steep of the leaves of the black-walnut, tomato vine, or many other strong and pungent leaves, or a solution of soot might answer, as any man in the south knows how repugnant the smell of soot is to the insect tribe, particularly to the mosquito. Mago.

Elementary Instruction in Chemical Analysis, by Dr. C. R. Fresenius, *chemical assistant in the Laboratory of the University of Giessen, with a preface by Professor* Liebig, *&c., published in New York by D. Appleton & Co.,* 8 *vo. pp.* 284.

This work comes before the public with the sanction of Professor Liebig, whose scientific labors in behalf of Agriculture are spreading far and wide, and doing much good. Since his attention has been turned in that direction, we find that other chemists, in Europe and in this country, are devoting themselves to the improvement of agriculture by means of the science of Chemistry. We wish them success, and hope they will continue their labors, until they awaken the whole agricultural community to the importance and dignity of the art they practice, and the necessity of improving it by the union of practical skill and scientific knowledge.

The work before us, however, is not strictly agricultural, though it has an indirect bearing on the subject. If, for instance, we want to analyze the soil of a field, an earthy substance found on a farm, or a metallic substance from beneath the surface, it directs the practical chemist how to proceed; how to prepare, and how to apply his tests. To the student of chemistry it is a treasure, and one of the best works of the kind that has of late issued from the press.

A neighboring farmer was lately expressing a wish that we had some chemist in this part of the State who would undertake the analysis of soils. I referred to Dr. Torrey, Dr. Chilton, and Issachar Cozzens, of New York, who were fully competent to the undertaking. But at present, the applications would be so few as to afford an insufficient compensation. If, however, the wish of my neighbor was more general, and the applications of farmers for the analysis of soils were sufficiently numerous, the expense could be reduced, and make it an object for a chemist to apply himself to the subject. The American Institute, in the city of New York, might designate a chemist for the purpose. Or if an agricultural school should be established, a professor of chemistry should be appointed, embracing mineralogy, geology, &c., in his course. To the student or the professor, the work of Dr. Fresenius would be highly valuable in the analysis of soils or other substances. A Practical Farmer



THE BOSTON CENTRE-DRAUGHT PLOW.

Prouty & Mears' Self-Sharpening Patent, with new Gearing.

The advantages secured by the new gearing attached to this plow, are many and great. By drawing from back of the standard, the beam is secured from breaking; the plow is kept more firmly into her work, and a remarkable degree of steadiness is communicated, greatly increasing the power of the beam; while the facility of taking more or less land, and raising or lowering the point of draught to the greatest exactitude and without altering the back bands of the beam, by means of the elegant arrangement at the head of the beam, is truly surprising. The wheel, larger, and running on the outside of the beam, enables the plowman to carry over the last or clearing furrow with the greatest ease and precision, the wheel then passing up the open furrow on the left, quite independent of the single furrow-slice, from which the wheel, when placed under the beam, is continually running off.

The Boston Centre-Draught Plow, with the new gearing, may now be considered the "Ne plus ultra;" for as it is conceded on all hands, that *spade labor is the perfection of good husbandry,* the plow which comes nearest to that criterion must be the best for all purposes. The above engraving is the portrait of a plow that has been found capable of breaking up two acres and a half of sod ground in a day, with a team of three mules abreast; to turn it from a two horse plow to a three horse a breast plow, or *vice versa,* requiring the labor of a few minutes only. [See advertisement.] J. P.

Delaware, April, 1844.

SALTING AND CURING HAY.

Messrs. Editors—In the January number of the Cultivator, I find some remarks of yours on salting hay for stock, which are something different from my views of the subject. I suppose the difficulty with Mr. Cartwright was, that he depended too much on the salt, and that his hay was so much heated by being housed too damp, that it proved injurious to his horses; and that salt had little or no agency in its injurious effects.

Your statement, that salt may be properly used to prevent damp hay from being damaged, does not agree with my experience on the subject; for as far as I have observed, the salt increases the dampness, and should be sparingly used on wet hay as well as dry. Most farmers in the hurry of the hay making season, are apt to house too much of their hay in a green, damp state, and use salt so profusely as to injure it, and the stock that consumes it. Stock need but little salt in winter, and more than to make their food palatable, must have a contrary effect, and be eaten from necessity rather than choice.

My practice is to cure my hay properly and put two quarts of fine salt to a ton, taking care to have the lumps well pulverized. Curing hay in the cock, is the only right way, though most farmers are slow to believe it, and many have condemned the practice, because they have not patience to wait long enough. I know of no other way to cure clover without serious loss.

The above was written before I read a communication from R. L. Pell of Ulster county in your March number, and had not his theories in other respects reminded me of the observations you made on readers of agricultural papers in the February number, I might not have troubled you with this communication, but have adopted his plans in future. As it is, I think I shall let farmer A. try them first. Ten dollars worth of grass seed to an acre, would look large to farmers that do not usually sow over two; and using "straw, chaff, and refuse hay, to make compost, because it contains substances required in the animal economy to form muscle, blood, horns, hoofs, &c." would hardly answer for stock farmers. If Mr. Pell has made any considerable quantity of hay in that way, and fed that exclusively any considerable time to his stock, and not lost them, I think they must be of a different temperature from my neighbor's cow, that was killed by eating salted cucumbers, or my pigs that shared the same fate by drinking a pail full of swill with one pint of salt in it. Yours, &c. Daniel S. Curtis.

Canaan, N. Y., March 6, 1844.

TRANSFERRING BEES.

Messrs. Editors—It is with pleasure that I comply with your request, in giving a description of an easy mode of transferring bees. I do it any time of the day, although it is best when most bees are abroad. If there are any bees on the outside of the hive, sweep them off with a wing or feather. "Then take it from the stand and reverse it upon the ground; spread a sheet upon it with a string or hook fastened to it in the centre over the centre of the hive." Then place the empty hive where the old one stood, to receive the returning bees. "Then lay a double blanket or carpet, or some thick cloth so as to make it dark within; the corners are then to be thrown on the top out of the way of the hammer, which is now to be applied," (lightly but rapid,) "first upon one side and then upon another; they roar loud when the hammering commences, but in less than a minute their noise will abate, when the cloths should be raised by the string two or three inches, which they will immediately answer by their roaring in consequence of having more room; the hammering to be continued; the cloth to be raised slowly; and when it is raised six or eight inches in the centre, it can with perfect safety be raised from one corner of the hive, so as to see the motion and speed of the bees in leaving the combs and running up into the cloth. The raising of the cloth must be slow and gentle, governed as much as possible to the accommodation of the bees; in ten minutes time the cloth in the centre should be about two feet from the hive, by which time probably the bees will all be in the cloth; the hammering, however, is to be continued until they have all, or nearly all, left the hive, when the top cloth is to be carefully taken off, the sheet raised from the hive by the string or hook and spread open, the bees uppermost;" directly in front of the empty hive, the bees will soon take possession of it; guide the queen, if she can be be found, and disturb the bees gently with a feather. If there be any bees left in the old hive they will soon leave the combs by blowing in; sweep them off and put the hive where the bees cannot find it. The bees will work with renewed activity as if they had not been disturbed.

J. Wells.

Ulster Co., N. Y., April 9th, 1844.

In cultivating the earth, the condition of man's success is his industry upon it.

In raising domestic animals, the condition of his success is kindness and benevolence to them.

The Garden and the Orchard.

CULTIVATION OF FRUIT.—No. V.

THE PEAR.

The varieties of the pear are propagated by budding and grafting. The compactness of the wood renders the latter very successful. The stocks are raised either from seeds or suckers. But suckers do not always form good roots, and should only be employed when seedlings cannot be had. Seedlings are greatly improved by transplanting at one or two years of age; cutting off the lower extremity of the tap root, at the time causes them to throw out lateral ones, and renders their final removal from the nursery more easy and safe.

As a general rule, pears should be grafted or budded on pear stocks. On the apple, thorn and quince, their fruitfulness is much increased, but the duration of the life of the tree is greatly diminished. The same cause which produces an accumulation of the elaborated juices in the branches, and consequently an increase of flower buds, and of fruit, also prevents the proper diffusion of the sap and secretions, and shortens the life of the tree. There are however several advantages of employing such stocks in certain cases.

One of the most important of these is the production of dwarfs. These are chiefly desirable in small gardens and on very limited grounds. The quince stock is commonly used for this purpose. But as the quince is very liable to be destroyed by the borer, an improvement to remedy this evil has been introduced lately into practice. The quince is first grafted on a pear stock, and the year after the pear is grafted on the quince shoot thus produced, about an inch above the previous insertion. The wood of the quince is thus made to form a portion of the trunk, by which the circulation is obstructed, and increased productiveness and diminished growth produced. A method, adopted by French gardeners, of training these dwarfs so as still further to increase their fruitfulness and diminish the space they occupy, as well as to add strikingly to the neatness of their appearance, is what is termed *quenouille* training. A single stem is suffered to run to a height of about seven feet, leaving branches at regular distances from bottom to top, about eighteen inches long. These are brought into a pendent position by bending them downwards as they grow, and confining them to this position by shreds of bass until they become fixed. The tree will throw out many more shoots than are necessary; these must be pruned off, leaving only the most vigorous. The circulation is impeded and their luxuriance checked, and consequently the production of fruit increased. Trees thus trained, need not occupy a tenth part of the space allotted to common standards.

Some varieties, too, are much improved in quality by grafting on the quince. This is the case with the Duchesse d'Angouleme and some others of great excellence, which are said to be of only second-rate quality when on pear stocks.

Pear trees, on account of their upright, pyramidal growth, require much less space than apples. Twenty feet distance is sufficient in all cases.

The following are some of the best varieties of the pear, which have either originated in this country, or have been proved here and found adapted to the climate.

SUMMER FRUIT.

Amire Joannet. Fruit quite small, good but not first rate; a great bearer, ripening often two weeks before wheat harvest. Chiefly valuable for its early maturity. The *Primitive* or *Little musk*, is smaller, inferior in flavor, and about a week later, but in other respects resembles the Amire Joannet.

Madeleine. A week or two later than the preceding; of good size, and delicious melting flesh and fine flavor. A sub-variety, slightly inferior in quality, has less of the peculiar greenish color of the skin, and is destitute of the pleasant and just perceptible degree of acid which mark the true variety.

Skinless. Ripens the early part of 8th month, (Aug.) fruit medial size, sweet, juicy and good, hardly first rate, but its good qualities remain unchanged through all seasons, and it is a great and constant bearer.

Dearborn's Seedling. Medial size, of fine and delicate texture and flavor, melting and very good. It ripens the middle and latter part of 8th month, with the *Julienne*, a variety not equal to it in quality, but excelling in the abundance of its crops while the tree is yet very young.

AUTUMN FRUIT.

Washington. Ripens soon after Dearborn's Seedling, of medial size, of sweet and delicious flavor. Decidedly a first rate fruit.

Summer Bon Chretien (or *September.*) Fruit large and beautiful, very sweet, juicy and rich. Considered by many as equal to the best of pears. It ripens nearly with the Washington.

Seckel. Well known as a fruit of unequalled richness of flavor, and though small, and the tree of slow growth, it should be in every collection.

Urbaniste. Large, excellent, ripening late in autumn, too sour for some palates, but of decided excellence.

Virgalieu. Known as the *St. Michael* of New-England, the *Butter pear* of Pennsylvania, and by more than twenty other names. It is erroneously called the Virgoulouse by some writers, but the latter name belongs to quite a distinct fruit. In most parts of New-York it is well known as a fruit of great excellence.

WINTER FRUIT.

Little attention has been given in this country to the cultivation of winter pears, and their quality and adaptation not thorougly ascertained. The *Passe Colmar, Easter Beurre,* and some others, however, have been found very fine. But much care is required in ripening, otherwise they prove worthless. They are to be kept in a cool place till near the time of maturity, and then brought into a warm room, with a temperature as high as 70 deg. Fah. when they soon acquire a fine flavor. Late autumn and winter pears of first quality have been rejected by some cultivators as unfit for eating, from the simple fact that they were allowed to ripen in the cold.

The effects of temperature and other external influences, on many varieties of the pear, render their quality exceedingly variable with the seasons. The *Frederick de Wurtemburg* has fruited for a few years past in Western New-York, and was generally considered fully equal if not superior to any foreign variety; but the past season proving unusually wet and cold, the fruit, though fine in appearance, was found to be tasteless and worthless. But when taken from the tree and ripened in a warm room, the quality proved excellent. This expedient, however, will not always answer, as in case of the *Bezi de la Motte* and some others, which are sometimes delicious, but usually of no value whatever. Several instances were given by the late Robert Manning in Hovey's Magazine, of pears which one year were melting and high flavored, and the next so insipid as to be at once rejected as perfectly worthless.

Those varieties which continue unchanged in their excellence, through all weathers and seasons, as the *Madeleine, Skinless, Summer Bon Chretien, Seckel, Virgalieu,* and others, possess not only eminent advantages, but give more promise of general adaptation to the varying circumstances of the different localities of the country.

The pear tree is of longer life than most other fruit trees. In the Genesee Farmer, vol. 3, p. 38, is a notice of a tree probably 200 years old. The celebrated tree probably still standing at the corner of Third Avenue and Thirteenth street, New-York, in a bearing state, was planted by Governor Stuyvesant more than 200 years ago. The only formidable *disease* to which the pear is subject, is the *Fire Blight.* This generally makes its appearance during the early part of summer. The branches affected by it suddenly turn black and die. If the disease is not checked, it frequently, but not always, extends and destroys the whole tree. It has been ascribed to different causes. Observations prove that, at least in some instances, it is produced by a small insect, (*Scolytus pyri* of Peck,) which eats a small circular ring round the branch beneath the outer bark, and thus destroys it. The insect, where discovered, has been some inches below the affected part. But sometimes no insect can be found. The writer has carefully stripped diseased branches, and even whole trees of their bark, and on the closest examination has detected nothing. This absence of external injury has led to another opinion, that fire blight is caused by a too rapid growth producing a superabundant flow of sap in the branches, and consequent surfeit. In proof of this, the fact is adduced that the most rapid growing trees are most subject to this kind of blight. But as such a cause would be an anomaly in vegetable physiology, it is far more probable that it is produced by injury from the cold of winter, which would of course chiefly affect the largest and most succulent growth.[*] But whatever may be the cause, nearly all agree in the remedy. Professor Peck, who first described the insect, which he considered as the *only* cause, directed that the affected branches be immediately cut off at some distance below, and burnt, to destroy the insect. John Lowell states, that by steadily pursuing the system of cutting off the limbs many inches below the apparent injury, and burning them, the *insects have been extirpated from his estate.* This remedy has succeeded perfectly in other instances. It has succeeded also where the disease was evidently not caused by an insect. But it must be immediately applied. All half-way efforts will be useless. J. J. T.

CULTURE OF THE STRAWBERRY.

The production of this delicious and healthy fruit is so easy, and where grown for sale, so profitable, that it is surprising it is not found in every farmer's garden, where a small space devoted to it would ensure a supply of fruit for a long time. Any soil suitable for other vegetables, will produce strawberries, but the best soil is a deep friable loam. The best time for transplanting is in the autumn after the vines have ceased bearing, but they will succeed if planted early in the spring. Dr. Bayne, in that excellent Journal, "Hovey's Magazine of Horticulture," gives the following directions for the culture of this fruit, which can scarcely fail of success; though we may add, that if the soil is suitable, and the plants are kept clear of weeds, and the runners stopped, there will usually be little doubt about the bearing, whatever may be the mode or distance of planting."

"For the reception of the plants select a loamy or sandy soil; spade in a thick layer of strong unfermented manure, and thoroughly pulverize the earth; mark off the ground in rows three feet asunder, then select the strongest plants, and set them 12 inches from plant to plant in the rows. Permit the runners to take possession of every alternate space; observing to eradicate weeds and grass throughout the season. The runners from the other space must be carefully destroyed throughout this time. By this arrangement of the plants, you will have your patch in beds three feet wide, leaving a vacant space or alley three feet wide for the gatherers to walk in. After the fruit season is over, the alleys or spaces unoccupied by the plants, may now be thoroughly worked for the reception of bearing plants for the next year. The plants of the previous year must be spaded under, taking care to leave sufficient plants in the original rows, for the production of bearing vines for the next crop. By this simple mode of reversing the beds, a patch upon the same ground may be continued productive for many years."

In speaking of the finest and most productive varieties, Dr. Bayne adds:—"I would recommend Hovey's Seedling, Female Hudson Bay, Large Lima, Bishop's Orange, Bayne's Prolific, as being splendid varieties, and abundantly prolific. I believe every flower on the above varieties are female, and if planted separately, will fail to yield abundantly; but if planted in proximity with the Melon, or Southborough Seedling, every flower will be impregnated, and will produce enormous crops."

On the sexual difference of the flowers of the strawberry, first brought into notice by Mr. Longworth of Ohio, and received with much favor, as accounting for the fertile and sterile beds of this plant; the conductor of the Magazine dissents from the believers in such sexual difference, and in some comments on the paper of Dr. Bayne, states his opinions at large. We leave room for only the following extracts; and the remark, that in planting strawberry beds, the intermixture of what are called male and female flowers, can do no no hurt, and will ensure fertility.

"That there may be *fertile* and *sterile* beds is not denied; but the cause of their sterile character is to be sought, not in a naturally defective organization of the blossom, but rather in the mode of cultivation applied to the plants. It is well known that all flowers have a tendency to become double, and when this takes place, it is also known that the stamens are transformed into petals. Now somewhat such a change undoubtedly takes place in the strawberry, when under a high state of cultivation, or forced by too much nourishment to extend its runners too far. Repletion is fatal to the perfection of the blossom, though it may produce apparently a vigorous growth. * * * * Such has been the management of many beds of our seedling. We know of repeated instances where the beds of *last year*, owing to their entire unproductiveness, were given up as unworthy of any care, which the past season, produced immense crops, though overrun with weeds, and this, too, without being in the vicinity of any other kind. Many such experiments have proved conclusively, that cultivation alone creates fertile or sterile plants."

We think Mr. Hovey has stated the case rather too strongly. Cultivation no doubt does much, but we cannot think does every thing. We have had in a small meadow devoted to fruit, and which until last year has not been plowed for a long time, two patches of the common field strawberry, both of which blossomed freely every year, but while one of them always bore freely, the other never produced a solitary berry. In this case there was no mixture of the flowers, and all were sterile; while the patch of mixed blossoms was productive. The cultivation with both patches was precisely the same; and therefore this result must be attributed to some other cause.

RYE INJURIOUS TO ORCHARDS.

Messrs. Editors—In 1839, I plowed in a twenty acre field of rye for manure, when it was about developing the tassel, with good success. I would not have it understood that the grain was sowed for that purpose, as there are many substances less expensive, that might be used to greater advantage, but to save a young orchard, growing in the same lot, from *destruction*. During my absence, my man through mistake, sowed rye instead of wheat; and on my return, I was obliged to turn it under, having once injured an orchard so materially by cropping it one year with rye, that it did not bear fruit in 5 years after, and still feels the effect of the injury.

Pelham, Ulster Co., Feb. 19, 1844. R. L. Pell.

APPLES.

Messrs. Editors—The object of this communication is to suggest some reasons why this species of fruit should receive increased attention from our farming population. More care needs to be bestowed upon the raising of the *choice kinds* of apples. The demand for these is generally far beyond the supply. They are needed both for consumption at home, and shipment abroad. Choice apples, hand picked and properly barreled, meet a ready sale, and at fair prices, whether needed for domestic use or for exportation to Europe. The greatest facilities for such exportations are now afforded by steam ships, packets, and other carriers of freight, and it is well known that in European countries, particularly England, American apples are more thought of, and command higher prices than those of transatlantic growth, and prices which do not fail to yield to the shipper, due returns of profit. Hence it is easy to see that the choice article need only to be transported in good order and condition to our commercial emporiums, to attract immediate attention and command a ready sale. And indeed, it need only be known, that farmers have on hand these choice kinds of apples, fit either for family use or for shipment to foreign ports, and applicants will soon make their appearance, and the full value be obtained for the article But while good apples are thus readily disposed of at fair prices, and are therefore claiming increased attention from every farmer who has a proper regard for his own interests and the wants of the public, common ones also are quite sure to meet with a ready sale and at fair prices. Larger quantities of these should be raised, for larger quantities are needed. In this section of the State, it is not difficult to make contracts for the article, sometimes to be delivered when called for and even to be taken from the trees. Here then is inducement for the care of the farmer, and besides these apples are found as profitable as potatoes for feeding out to stock; and orchards properly planted and well trimmed, will yield good crops of potatoes and other products. I append to this article, "Six reasons for planting an orchard," presenting the subject in a different light, and commending it even to the moral feelings as well the judgment and common sense of every farmer. A. OF THE NORTH.

---

[*] The opinion that it is caused by the fruit rotting on the branches is sufficiently disproved by the fact that trees which have never borne are liable to it. For an instance of this, see Genesee Farmer, vol. 3, p. 273.

SIX REASONS FOR PLANTING AN ORCHARD.

"1. Would you leave an inheritance to your children? plant an orchard. No other investment of money and labor will in the long run, pay so well.

2. Would you make home pleasant—the abode of the social virtues—plant an orchard. Nothing better promotes among neighbors a feeling of kindness and good will, than a treat of good fruit often repeated.

3. Would you remove from your children, the strongest temptation to steal—plant an orchard. If children cannot obtain fruit at home, they are very apt to steal it; and when they have learned to steal fruit, they are in a fair way to learn to steal horses.

4. Would you cultivate a constant feeling of thankfulness towards the great giver of all good—plant an orchard. By having constantly before you one of the greatest blessings given to man, you must be hardened indeed if you are not influenced by a spirit of humility and thankfulness.

5. Would you have your children love their home—respect their parents while living, and venerate their memory when dead—in all their wanderings look back upon the home of their youth as a sacred spot—an oasis in the great wilderness of the world—then plant an orchard.

6. In short, if you wish to avail yourselves of the blessings of a bountiful Providence, which are within your reach, you must plant an orchard. And when you do it, see that you plant good fruit. Don't plant crab apple trees, nor wild plums, nor Indian peaches. The best are the cheapest."

ON GRAFTING.

MESSRS. EDITORS—As the season for grafting approaches, it may be useful to communicate to your numerous readers a very simple suggestion for ensuring the life and vigorous growth of the scion, and consequently the rapid renovation of trees and orchards. The rule is this. Always cut off the stock to be engrafted not more than one inch above a strong lateral shoot.

This shoot should be left growing until the following spring, when the grafts will have acquired strength enough to dispense with its aid. The observation of several years has shown the success of this simple method, and a little reflection will show its conformity with the physiology of trees, and the mode of their growth.

The sap, as is well known, rises in an imperfect state through the solid wood of the tree. In this state it contributes nothing to its growth. But when it has been *elaborated* in the leaves, it descends between the bark and the wood to form the new growth. The yearly increase is shown by the annual circle of new wood thus formed. Hence the importance of having a vigorous *leafy* branch rising from the head of the stock which will *send down* from its leaves a full supply of the thick elaborated sap, to *nourish* the *young scions* and to heal and cover the wound upon the stock.

This principle is prettily illustrated in the ordinary pruning of trees. Where a stump is left the sap scantily exudes around the bark, and the efforts of nature barely suffice to heal the edges of the wound leaving the woody part bare. But if the limb is cut off close down to the bark from which it springs, the wound being then, as I may say, within the full current of the descending elaborated sap, is soon wholly covered and disappears.

These facts respecting the nature of the circulation in trees and plants will also explain why the grape cannot be engrafted with success until the leaves are partially expanded. The first flow of the watery sap which rises through the wood is excessive, and prevents the union of the graft with the vine. But when the opening leaves expose a surface for the evaporation of the superfluous water, the sap is elaborated and fitted to form a union between the old and new wood.

The above suggestion may from its simplicity appear unworthy of illustration so particular. But the process of bleeding is also very simple, yet it is connected with all that is wonderful in the laws of the circulation of the blood. The value of an operation is rather enhanced by its simplicity; and it is always a pleasing as well as a useful exercise of the mind to trace the connection between the beautiful truths of natural science, and many of the most easy and ordinary practical operations. The theory of one operation, well understood, will render many others intelligible and interesting. This rule may have been observed in an imperfect and accidental way, but I have no where seen it clearly stated, and the observation of engrafted orchards will show that it is not definitely understood. On the contrary, grafters generally select a clear place to cut off the stock, either for convenience in working, or from the mistaken idea that the scions are nourished only by the rising sap, and that laterals would weaken their growth; while the actual result is, that they are prevented from dying under these circumstances, *only* by an effort of nature to heal the wound upon the stock, and an active growth takes place much more slowly than when the side branch is left. E.

FLOWERS.

We hope our fair friends will not, at this season, overlook the delightful employment of cultivating flowers. Every one may have a few, and the taste once acquired, it will not readily be relinquished. A woman destitute of a love for flowers, seems to us a mistake of nature. The delicate, the fragile, and the beautiful, should have sympathies with all in nature that possesses the same qualities. The time spent on their cultivation is in no sense of the word wasted. They contribute to our pleasures; they add to our knowledge of nature; they unfold to us the mysteries of the beautiful, and tend to humanize and elevate the mind. To us a woman never appears more truly in her sphere, than when she divides her time between her domestic avocations, and the culture of flowers. If our fair friends wish to have the flush of health on their cheeks, and the rich rose-leaf tint on their lips, let them spend an hour or two each day in the open air, inhaling the fragrance, while employed in training and cultivating their flowers.

OLD PEACH STONES.

A writer in the Massachusetts Plowman relates a remarkable case of the retention of the vegetative principle in peach stones. Some forty or fifty years ago, there stood beside an old well, two or three peach trees. Two years since, the well, which had much fallen down and was covered with briars, was removed: when to the astonishment of the owner, ten or twelve peach trees came up where the well had stood. He thinks the stones (or seeds,) from which these trees came, were produced at least thirty years ago.

SALT FOR ASPARAGUS.

Our correspondent "Jonathan," says—"The application of salt on Asparagus, must be made with caution, as he once much injured a fine bed by the experiment."

BEST WAY TO KILL CATERPILLARS ON FRUIT TREES.—With a swab fastened on the end of a pole, and dipped into *strong lie*, swab out the nest. The lie will kill all that it wets. C. R.

EXTRAORDINARY SHEEP.—A shearling (yearling) Leicester weather has lately been killed in England which weighed 46 lbs. per quarter, and two others of the same breed and age that weighed 42 lbs. per quarter each.

Domestic Economy.

CHEESE MAKING.

A subscriber who makes a large quantity of cheese, has requested to be informed how some of the celebrated English cheese is made. After having looked over all the principal papers on the subject within our reach, we have concluded we cannot give the information sought, in a better form, than by presenting an extract from the "Report of a Gloucestershire Vale Farm," published by the "British Society for the Diffusion of Useful Knowledge," in the third volume of "Husbandry." The occupant of the farm is Mr. Drinkwater S. Hayward, whose management generally, we should think from the Report, is of the best character.

Management of the Dairy.—It is acknowledged by every one at all acquainted with the subject, that the quality of cheese does not depend upon the superior richness of the soil or the fineness of the herbage; for cheese of the first quality is often made from land of inferior description, and from herbage of a coarse nature. Nor does the quality of the cheese depend on the breed of the cows, for cheese of the best quality is made from the milk of cows of all the different breeds in the country; we think it principally depends on the management of the cows as to their food, &c. of the milk in converting it into cheese, and of the cheese, till it is fit for market.

The following circumstances are injurious to the quality of cheese; allowing the cows to get rank or ill-flavored grass or hay, these conveying a bad flavor to the milk and cheese; allowing the cows to run and heat themselves; driving them far to be milked, which makes the milk froth much in milking; carrying the milk from the place of milking to the dairy; and allowing the milk to remain long after it is milked, before it is set with the rennet.

The greatest dependence is upon the dairy maid; and the chief art of making cheese of the finest quality, lies in her management. The superintendence of the dairy invariably devolves upon the farmer's wife. Mrs. Hayward attends to every minute circumstance in this department, and the following is a report of the information she has obligingly furnished respecting the whole economy of the dairy of this farm.

The management of a dairy should be conducted with the greatest regularity. Every operation should be performed precisely at the proper time. Either hastening or delaying the execution of it, will cause cheese of an inferior quality to be made of milk from which the best may be obtained. A dairy maid is selected for skill, cleanliness, and strict attention to her business. Her work commences at four o'clock in the morning, and continues without intermission till bed time.

The dairy house should be kept at a temperature of between 50 and 60 deg.; and the dryer it is, the better, as both the milk and cream retain their sweetness much longer in a dry than in a damp air. Every time therefore, the dairy is washed, it is dried as quickly as possible.

The milkings should be as near as possible at equal divisions of the day, commencing at about four o'clock in the morning and three in the afternoon. The milking should be finished in an hour. The dairy maid sees that the milkers do their duty, and that all the cows are milked clean; for the milk that comes last is richest; and, besides, if the cows are not clean milked, there will be a gradual diminution of the milk, perceptible daily; for these reasons, the greatest care is taken that the cows are clean milked.

The cheese tub being put in its place in the dairy, the ladder is put across it, and a large thin canvass cloth covers the whole tub and ladder, to catch any of the milk that may drop from the pail, and to prevent dirt from falling into the tub. Above this, and upon the ladder, is placed a hair cloth sieve, through which the milk is strained. If the milk should not be of the temperature of 85 deg., a portion of it is put into a deep tin kept for the purpose, and placed in a furnace of hot water in the wash house, by which means the whole is warmed to the proper degree. It is of the utmost moment to attend to this, for if the milk is not warm enough when the rennet is put into it, the cheese will be 'tender,' and will bulge out in the edge, which spoils its appearance, and a great quantity of sediment of small curd will be found in the whey, which is so much of the curd lost. If, on the other hand, the milk is too warm, it will cause the cheese to 'heave' or ferment, which injures both its appearance and quality. When the milk is sufficiently warm, the coloring matter, (if any is used) and the rennet are put into it, after which, the tub is covered with a woolen cloth for at least an hour. Rennet or runnet is made from the stomachs of calves, here called 'vells.' Mrs. Hayward never uses them till they are twelve months old; for if they are not old, the rennet made from them causes the cheese to 'heave' and become full of 'eyes' or holes. She prepares the rennet from them by adding to every six vells, two gallons of brine and two lemons. The lemons do away with any disagreeable smell, and give the rennet sweetness and agreeable flavor. Twenty or thirty gallons of it are made at a time, as it is found to be much better when made in large quantities. It should never be used till it has stood for at least two months.

When the curd is sufficiently firm for breaking, it is gently and slowly cut with a three bladed knife down to the bottom of the tub, (the knife being about fourteen inches long,) both ways, or at right angles and around the sides of the tub. The cuts should be about an inch apart. When it has stood five or ten minutes, to allow it to sink a little, and the whey to come out as clear as possible, some of the whey is dipped out of it with a bowl, and the curd is cut a second time with the three bladed knife, very slowly to begin with; for if the cutting is done hurriedly, a great quantity of sediment of very small curd will pass through the seive and be found in the whey, and there will also be an increase in the quantity of whey butter, which should have been in the cheese, and the value of the butter thus obtained will not compensate for the loss of credit the cheese will sustain from the abstraction of the butter from it. The cutting being therefore performed very slowly at first, and with the strokes of the knife at considerable distance from each other, is gradually quickened, and the strokes are taken nearer and nearer every time. At last, one hand, with the skimming dish, keeps the whole in motion, turning up the lumps suspended in the whey, while the other, with the knife, is in constant motion, cutting them as small as possible; and this operation is continued till no more lumps are brought to the surface, and the whole mass is reduced to one degree of fineness. This process may occupy a quarter of an hour.

The curd is now allowed to stand a quarter of an hour, and being thus sufficiently settled, the whey is taken from it with the bowl, and poured through a very fine hair sieve, placed over the whey leads. When the greatest part of the whey has been separated from it, the dairy maid, folding over a portion of it, and beginning at one corner, goes around the tub, cutting the curd into lumps, and laying them on the principal mass, by which operation the mass is carried all round the tub, and most of the remaining whey escapes between the cut fragments as they lie and press upon each other. From time to time the whey is taken from the tub, and put through the seive into the whey leads.

The curd is then put into vats (hoops) and pressed down with the hands; the vats being covered with cheese cloths about one yard and a quarter long, of fine canvass, are placed in the press for half an hour, when they are taken out and the curd cut into thin slices, and put into a mill fixed on the top of the tub, which tears it into very small crumbs, as small as vetches. This mill, which is of Mr. Hayward's construction, is a great improvement in the making of cheese, not only as it saves the dairy maid the most laborious part of the process, that of squeezing and rubbing the curd into small crumbs with her hands, but as it allows the fat to remain in the cheese which the hands squeeze out.

In its pulverized state it is customary with most dairy maids to scald the curd with hot whey; but Mrs. Hayward considers cheese richer when made without scalding the broken curd, this washing the fat out of it. She therefore, without scalding it, puts it into the vats and presses it closely together with the hand in filling them. In making the double Gloucester cheese, particular care is taken to press any remaining whey from the curd as the vats are being filled, and they are filled as compactly as can be done with the hand, being rounded up in the middle, but just so much so as that the whole can be pressed into the vats. Cheese cloths are then spread over the vats, and a little hot water is thrown over the cheese cloths, which tends to harden the outside of the cheese and prevent it from cracking. The curd is now turned out of the vats into the cloths, and the vats being dipped in the whey to wash away any crumbs of curd that may cling to them, the curd inverted, and with the cloth around it, is again put into them. The cloths are then folded over and tucked in, and the vats, as they are filled, and put into the press one upon another. The bottoms of the vats are smooth and a little rounded so as to answer the purpose of cheese boards, which, therefore, are only wanted for the uppermost vats, or when the other vats are not quite full. The vats are allowed to remain under the press about two hours, when they are taken out and dry cloths are applied, which with double Gloucester cheeses, should be repeated some time in the day.

Salting, and Salting Presses.—The vats, when the clean cloths are given, as just mentioned, are changed from the single press to the one next to it, and placed in it, one upon another, as before. They remain in this press till the cheeses are salted, when those made in the evening, take the place in the press of those made in the morning, and those made in the evening, are in their turn displaced by those made the following morning; the cheeses of the last making, being always placed lowest in the press, and those of the other makings, rising in it according to the priority of making.* The same order is observed in the other two presses, the last, or newest making in each, being lowest, and each making have next above it that which was made last before it. The cheeses pass through the three presses in this order, advancing a step in their progress at each 'meal' or making, till, at last, in four or five days, they come out of the presses and are put on the shelves. They are generally salted at the end of twenty-four hours after they are made, though this is done by some at the end of twelve hours. The salting should never be begun, till the skin is all closed, for if there be any crack in the skin of the cheese at the time of salting, it will never close afterwards. The salting is performed by rubbing with the hand both the sides and the edge of the cheese with finely powdered salt. The cheese, after this, is returned to the vats and put under the press, care being always taken according to what has been said, to put the newest cheese lowest in the press, and the oldest uppermost. The salting is repeated three times with the single, and four times with the double Gloucester, twenty-four hours being allowed to intervene between each salting. After the second salting, the cheeses are returned to the vats without the cloths, that the marks of the cloth may be effaced, and the cheese may get a smoothness of surface and 'keenness of edge,' which is a peculiarity of Gloucestershire cheese. The double Gloucester remain in the presses five days, and the single, four; but in damp weather, they should remain longer. The quantity of salt generally used, is about three pounds and a half, to a hundred weight of cheese. The size of the double Gloucester cheeses is commonly about five to the hundred, or twenty pounds each, and that of the single, about eight to the hundred, or twelve and a half pounds each.

The Cheese room.—When the cheeses are taken from the salting presses, they are put on the shelf in the dairy for a day or two, where they are turned once in twelve hours. They are then taken to the cheese loft to make way for the new ones. In the cheese room, either on the floor or on the 'cheese rack,' they are turned once every day; and in general, in a month from the time they were taken out of the vat, they are ready for cleaning, which is done by scraping them with a common knife. The cheese, if intended for the London market, as is generally the case, is rubbed, after being cleaned, with a paint of Indian red or Spanish brown, or a mixture of both and small beer. It is rubbed on with a woollen cloth. After being painted, it is turned over twice a week, and oftener if the weather is damp; and as soon as the state of the paint will permit, the edge of the cheese, and about an inch of each side, is rubbed hard with a cloth, at least once a week.

Characteristics of the true Gloucester.—The marks of true Gloucester cheeses, are 'the blue coat' which arises through the paint on their sides, and which is a sure sign of their richness and sweetness; the yellow, golden hue of their edges, a smooth, close and wax-like texture; a very mild and rich flavor; not crumbling when cut into thin slices, nor parting when toasted, with the oily matter they contain, but softening, without burning. If cheese has been soured in the making, either from being too long in hand, or from want of attention in scalding the utensils, nothing will cause it to assume the blue coat. If the curd is salted when ground down before being put into the vats, the salt has the effect of giving a skin to each of the particles of curd it comes in contact with, which prevents them from intimately uniting; and although the curd may be pressed together and make good cheese, yet it never becomes a smooth, close, solid mass, like that which is salted after it is made; but is of a loose texture, and crumbles when cut; and although it may be equally fat, yet in toasting, the fat melts out of it, and the cheesy part burns. The skin of the cheese, too, is not tough and solid, but hard and brittle, and when examined, seems to be formed of many irregular portions.

PRESERVING EGGS.

At one of the Farmers' Meetings in Boston last winter, Col. Thayer gave his mode of preserving eggs, as follows: Take a quart of salt and three quarts of lime, and add water till the whole, stirred up and dissolved, is of the consistency of cream; then put in the eggs.

The Mass. Plowman gives the following from a Sherburne correspondent:

To one peck of lime put one pound of alum, and make a solution as for white washing. Put the tip end of the egg down to prevent the yolk adhering to the side, then fill up the vessel that contains the eggs with the solution to cover them completely. In a few days the lime will become dry, then fill the cask with sea water, or brine of the same strength, to be kept moist.

A correspondent of the Prairie Farmer, says a lady of his acquaintance colors wool and woolen goods, blue, with *purslane*, a common garden weed—that the lady assured him it was equal in every respect to the best indigo blue.

HARD MILKERS.

It is well known that some cows milk so hard that the labor is so severe as to exceed the value of the milk when obtained. We have seen several notices of late, on this subject, in the papers, from different writers, and different methods recommended of obviating the evil One has proposed the introduction of a keen narrow bladed knife, to enlarge the opening of the teat, and says the practice has been entirely successful. Another says he made some pine plugs and crowded into the teat holes, and let them remain about two weeks, except when milking, and afterwards had no trouble with the cow. Another recommends the insertion of a small quill, for the double purpose of enlarging the opening and drawing off the milk without using the hand; the quill to be withdrawn at each milking.

Now we should fear the result of this tampering with the teat, the more so as a few years since we knew a valuable cow, not a hard milker, that lost her bag from an inflammation caused by the introduction of a quill for the purpose of drawing off the milk, by an ease-loving boy milker. The operation was repeated but a few times, yet the result was fatal to the udder. Using a knife we should apprehend, would allow the milk in most cases to flow out as fast as collected; and should expect from the 'pine plug' either a similar result, or an inflammation,

---

* From this, we infer that a beam press is used, into which several cheeses may be put at once, the older ones which require the greatest pressure being put nearest the fulcrum.

THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES

VOL. I. ALBANY, JUNE, 1844. No. 6.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

SEVEN copies for $5,00—FIFTEEN copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "THE CULTIVATOR," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE FARMER'S MUSEUM,
(*Each no. containing* 16 *pages,*)
Is made up of selections from this paper, and published monthly at 50 cents a year—Fourteen copies for $5,00—Thirty copies for $10.

THE CULTIVATOR.

MONTHLY NOTICES.

Communications have been received since our last, from L. Durand, Richmond, C., R. S. Borden, P. V. C. Miller, C. M. A. J., J. M. Johnson, J. G. B., H. R. Robey, Female Reader, A. B. C., P. F. Cady, Wm. Jennison, R. L. Pell, Doubleyou.

Our thanks are returned to L. DURAND, Derby, Ct., for half a dozen ears of Durand Corn, a handsome 8 rowed yellow variety, which we have distributed among our friends.

To BIXBY & WHITING, publishers, Lowell, for a copy of the second edition of Dr. Dana's Prize Essay on Manures, which can be had at the bookstores—price 12½ cents.

To Hon. H. L. ELLSWORTH, Com. Patents, for a copy of his Annual Report, a notice of which will be found in another part of this paper.

To Prof. HALL, of this city, for a copy of his Address before the Society of Natural History of the Auburn Theological Seminary.

To T. FANNING, Ed. Agriculturist, Nashville, Tenn., for the "Outlines of the system of Education proposed to be adopted in Franklin College, at Elm Craig."

To J. S. SKINNER, Esq., for a copy of his edition of Clayton & Youatt's Cattle Doctor.

To A. L. KENNEDY, Esq., for a copy of the Report of a committee to the Delaware Institute of Sciences on the great rain storm and flood, which occurred in that county, Aug. 5, 1843. This is a very interesting memoir, and the Institute have performed a worthy service in collecting and placing upon record a history of this most extraordinary and destructive storm. The damage sustained in Delaware county alone, is estimated at $250,000.

THE CULTIVATOR FOR PREMIUMS AND GRATUITOUS DISTRIBUTION.—We have been favored this year with an unusual number of orders for The Cultivator for gratuitous distribution and for premiums. Among others, JAMES SLOAN, Esq. of North Carolina, takes 100 copies of the Cultivator, and Hon. J. J. M'KAY, of the same State, 50 of the Cultivator, and 100 of the Museum—The Hampshire, Hampden and Franklin Ag. Society of Mass., 40 of the Cultivator and 20 of the Museum—Newcastle (Del.) Ag. Society, 20 copies of the Cultivator—Brooke and Ohio Counties (Va.) Society, 15—Charlotte Co. Society, New Brunswick, 15—Winnebago Co. Society, Ill., 12—Seneca Co. O., 12—Cortland Co. N. Y. 24—Rensselaer, 16.

MAPLE SUGAR AND MOLASSES.—We have received from Mr. F. M. WAIT, of Windsor, Vt., some specimens of maple sugar and molasses, both of which are superior to any we have seen, excepting the sugar made by Mr. Woodworth, which took the premium at Rochester last year, which was made as described on page 22 of our present vol. That of Mr. Woodworth was, however, *refined,* whereas the only deviation from the usual process, in the manufacture of Mr. Wait's, we are informed, is "strict care that *all* the vessels used are kept *perfectly sweet and clean.*" If nothing more than this is required to make maple sugar equal to the beautiful sample sent us, it is certainly an object well worthy of attention—especially when it is considered that this quality would readily bring in market nearly *double* the price of the common article. The sample sent is very white, pure, and of very agreeable taste. The molasses is also very fine, and we think would be generally preferred to any other kind.

PROTECTION AGAINST THE BEE MOTH.—We have been shown a "bee-protector," so called, invented and patented by Thos. D. Howell, of Chandlersville, Muskingum Co. Ohio. It is a curious contrivance. The bees, in entering the hive, pass over a thin piece of board, so balanced on a pivot that the weight of the bee depresses the end next the hive and gives him a chance to enter. It requires a weight equal to that of the bee, to depress the board so that admission may be gained. The moth being lighter than the bee, (it is said, by three-fourths,) it is stated, cannot get into the hive. When it shall have been fully and fairly tried, we should be glad to learn how it works.

FREAK OF NATURE.—Mr. L. A. MORRELL has left at the rooms of the State Agricultural Society, old State Hall, a horn which grew on the *ear* of a Saxon ewe. It is about two and a half inches in length, and three-fourths of an inch in diameter at the base. It was taken off with the ear on which it grew attached to it, thus showing plainly its origin.

PORTABLE GRIST MILL.—Messrs. Sinclair & Co. of Baltimore, have recently got up a grist mill, which is very highly spoken of by a correspondent of the Marlboro (Md.) Gazette. "It can," says the writer, "be worked by *hand* or horse-power; with two men, it will grind at least three bushels per hour, and with four horses it will grind more than any water-power mill, with one pair of burrs, in the country. The work is done in a splendid manner. The grain can be either simply chopped, or ground into small hominy, or coarse meal, or made into meal as fine as flour need be. This is done merely by turning a screw. So easily can it be moved, that two men can take it about with as much ease as they can move a corn-sheller or wheat fan. The burrs are of cast iron, and will grind from three to five hundred bushels before they become too smooth for use, when any farm hand can take them out and replace them with others, which cost $3,50 per pair. There is no other part of the machine that will not last an age. The cost is only $40."

"Credit."—The paragraph alluded to by the Am. Ag. was taken from some paper, where it appeared without credit. It appeared originally we believe in the Western Farmer's Almanac. We could easily fill a column with a list of articles which are going the rounds of the papers, copied from the Cultivator without credit. Take for instance the following, from papers now on our table: The article on Poultry in the *Ulster Huguenot*, should have been credited to the Cultivator—also, Soaking Corn, in the *Kent News;* the *six* articles on the first page of the *Mercer Co. Farmer* for April; the *five* articles under the Ag. head in the Peterboro Chronicle of April 30; the article on Lucern, in the S. C. Temp. Advocate of April 25, and *two* other articles in the same paper; History of the Mercer Potatoe and Culture of Tea in America, in the Zanesville Gazette of May 15; six articles in the Ag. department of the Spirit of the Times of May 18; *three* articles in the Goshen Clarion of May 23, &c. &c. These omissions to give the proper credit, are undoubtedly accidental, and we have seldom alluded to them. Greater care in this respect is, however, desirable; and we hope those who are in the habit of copying from the Culrivator, will remember to give credit to whom credit is due.

Frost.—There was a hard frost in this vicinity on the night of the 21st of May. Ice was formed on some water which stood in barrels, to the thickness of an eighth of an inch, and in some places the ground was frozen. Beans, and other tender plants, were killed—corn and potatoes that were above ground, were cut down, but not killed. We have just learned from a gentleman from Madison county, in this State, that the damage in that section was quite heavy. That the ground was frozen to the depth of two to three inches, and that great fears were entertained that the fruit is killed.

New Mode of Churning.—We saw in the street the other day, a churn which worked itself. It was moved by a weight, which, after having been wound up, would keep the machine in motion till it had run down. A machine sufficiently large to admit of the weight being wound up to the height of nine feet, would run about half an hour. It was invented in Saratoga county, (N. Y.) but we did not learn the inventor's name.

The Wheat Crop.—Accounts from every section of our country afford the prospect of a most abundant wheat crop this season. A letter from Lewis Ellsworth, Esq. Dupage county, Illinois, dated May 14, says:—"The prospect of a heavy harvest was never so good. The amount sown exceeds that of last year by at least one quarter, and from present appearances the yield will exceed per acre that of any previous crop. Our spring has been rather cold and very wet, consequently corn-planting is late."

Amusements for Farmers' Boys.—Being lately at the residence of one of our most intelligent farmers, our attention was attracted to the door of a small room in an out-building, which was labelled "——office." On inquiry, we learned that this was a room given up to the boys. Entering, we found it fitted up with miniature implements of husbandry, seeds, of different kinds, a few plants, and branches of ever-green; the walls decorated with portraits of celebrated horses, cattle, sheep, swine, and poultry; while on some shelves, were some geological specimens, and several juvenile books of a character calculated to inspire a taste for rural life, and at the same time to teach correct modes of husbandry, horticulture, &c., the whole arranged in agreeable order. It struck us as an excellent plan, and we would suggest its general adoption. It furnishes the means of both amusement and instruction. How infinitely better it is to allow boys an opportunity of spending a part of their time in thus cultivating a taste for the investigation of those subjects by which their knowledge of nature and the world around them is increased, than in mixing with rude company and becoming contaminated with their vices.

Northern Light.—From a prospectus of this work, we learn that several important alterations and improvements are proposed for the coming year. It will be printed in the royal octavo form, similar to the Cultivator, instead of the quarto, as heretofore, on fine white paper, with entire new type, will be stitched, and enclosed in a neat handsome cover, each number containing sixteen pages. Its columns will be filled with a judicious blending of Literature and Science. Interesting selections will be made, though its contents will be chiefly original. Mr. A. B. Street, the present talented and accomplished editor, is to be assisted by Dr. T. Romeyn Beck, favorably known for his former contributions, Professor Hall, a distinguished geologist and man of general science, S. S. Randall, Esq., Deputy Superintendent of Common Schools in this State, with other contributors. The talent thus engaged cannot fail to recommend the Northern Light to the favorable notice of the public. The first number of the new series, will appear in the second week in June, and will be succeeded by others on the first and fifteenth of each month. Terms, a dollar a year in *advance.*

Farming Implements.—Inventors and manufacturers of improved farming implements may find it to their advantage to send models or specimens to the Hall of the New-York State Agricultural Society, in the old State-House, Albany. The Agricultural Hall adjoins the rooms devoted to the Geological collection—is visited by many persons from all quarters in passing through Albany—and articles placed there for exhibition may prove extensively beneficial to the manufacturers as well as to the farming community. Any such articles may be directed to Henry O'Reilly, Recording Secretary of the State Agricultural Society, Albany. ☞ The Agricultural papers in this and other States, are requested to promote the object by copying this notice.

Premium on Cotton.—The Chamber of Commerce of Apalachicola, have awarded a premium of a tea set to Col. A. M'Donald of Eufalla, Ala., for the best 20 bales of cotton sold in that market last season. The cotton was sold afterwards at 10½ cts. per lb. The premium for the best 50 bales was awarded to Capt. Thornton of ——.

The Michigan Farmer.—This is published at Jackson, semi-monthly, at $1,00 a year, by D. D. T. Moore. It deserves a liberal support, which we doubt not is accorded to it by the intelligent farmers of Michigan.

Charcoal.—Our correspondent at Columbus, (Ga.) J. G. W., will find in the back numbers of the Cultivator, which have been sent according to his directions, all the information we can give him on the use of charcoal as a manure. Several experiments were made with charcoal last year, and we should be glad to learn the result—particularly should be glad to hear the results of the trials made of it, by our correspondent, Za. Drummond, Esq. of Virginia.

Warren's Horse Power.—W. F. B. of Bushville, Ga. will find the information he wants, respecting the price of this machine, in an advertisement in this paper. We do not know the cost of shipping it to Savannah.

"*J. H. M.*" *Adams Co., Pa.*—The charge for inserting your advertisement three times, would be $6,00.

S. W., Whalen's Store.—If we can find a person who will answer your purpose, you shall hear from us.

Correction.—The paragraph about "Blind Teeth in Man," proves to be all a mistake. Mr. Johnson assures us that he wrote "young *mare*," instead of "man."

Ginger Beer.—One pint of molasses and two spoonsfuls of ginger put into a pail to be half filled with boiling water; when well stirred together, fill the pail with cold water, leaving room for one pint of yeast, which must not be put in until lukewarm. Place it on a warm hearth for the night, and bottle it in the morning.—*Selected.*

FOOD FOR WORK-HORSES—TREATMENT FOR "HEAVES."

Mr. E. H. Northrup, of Shoreham, Vt., inquires "What is the best mode of feeding the roadster and work-horse?" "Is there any cure for heaves?"

We do not find the disease here called "heaves," described by that name in the English works. The diseases described under the terms *chronic cough, thick wind, broken wind, wheeze, roaring,* &c., we are inclined to think are in this country frequently confounded under the term "*heaves.*" They are all, in a greater or less degree, affections of the lungs. The best food for horses so affected, is that which is nutricious, rather succulent, and condensed into a small compass. Dry food, entirely, especially a large quantity of poor or dusty hay, is very bad for them. Vegetables, such as potatoes, ruta-baga, carrots, &c. are very good. The preference is by some persons given to carrots, but we have tested the good effects of potatoes in such cases, and would recommend their use where carrots cannot well be had. The horse's stomach should not be crowded, and he should be only moderately exercised, especially soon after eating. We have known horses that were said to have the heaves, or to be broken-winded, perform a great deal of labor, with proper feeding and use, for several years; but a radical *cure* is not to be expected.

In reference to the inquiry about feeding, we remark, that the practice of "chaffing" or cutting the fodder and mixing with it the grain, (the latter in a ground state,) is highly approved, and is every year coming to be more adopted. Hay and straw may be cut together, if desired, and if the horse is not hard worked, a great saving may in this way be made.

Youatt, in his Treatise on the Horse, says—"Chaff may be composed of equal quantities of clover, or meadow hay, and wheaten, oaten, or barley straw, cut into pieces of a quarter or half an inch in length, and mingled well together; the allowance of oats or beans, is afterwards added and mixed with the chaff."

He advises the bruising or grinding of the beans and oats. In this country, Indian corn might be properly substituted for beans. Mr. Youatt says the prejudice which some have evinced against bruising the oats is, "so far as the farmer's horse and the wagon-horse is concerned, altogether unfounded. Horses of quicker draught, except they are naturally disposed to scour, will thrive better with bruised, than with whole oats; for a greater quantity of nutriment will be extracted from the food, and it will always be easy to apportion the quantity of straw or beans to the effect of the mixtnre on the bowels of the horse. The principal alteration that should be made on the horse of harder and more rapid work, such as the stage-coach horse, &c., is to increase the quantity of hay and diminish that of straw. Two trusses of hay may be cut with one of straw. * * * For the agricultural and cart-horse, eight pounds of oats and two of beans should be added to every twenty pounds of chaff; and thirty-four or thirty-six pounds of the mixture will be sufficient for any moderate sized horse, with fair or even hard work. The dray and wagon-horse, may require forty pounds. Hay in the rack at night is supposed to be omitted altogether. * * *

"Horses are very fond of this provender. The majority of them, after having been accustomed to it, will leave the best oats given to them alone, for the sake of the mingled chaff and corn. We would, however, caution the farmer not to set apart too much damaged hay for the manufacture of the chaff. The horse may be thus induced to eat that which he would otherwise refuse; but if the nourishing property of the hay has been impaired, or it has acquired an injurious principle, the horse will either lose condition, or become diseased. More injury is done by the eating of damaged hay or musty oats than is generally imagined. There will be sufficient saving in the diminished cost of the provender by the intronuction of the straw, and in the improved condition of the horse, without poisoning him with the refuse of the farm.

"While the mixture of chaff with the corn prevents the corn from being too rapidly devoured, and a portion of it swallowed whole, and therefore the stomach is not too loaded with that on which, as containing the most nutriment, its chief digestive power should be exerted, yet, on the whole, a great deal of time is gained by this mode of feeding, and more is left for rest. When a horse comes in wearied at the close of the day it occupies, after he has eaten his corn, two or three hours to clear his rack. On the system of manger-feeding, the chaff being already cut into small pieces, and the beans and oats bruised, he is able fully to satisfy his appetite in an hour and a half. Two additional hours are therefore devoted to rest. This is a circumstance deserving of much consideration even in the farmer's stable, and of immense consequence to the postmaster, the stage-coach proprietor, and the owner of every hard worked horse."

We have known several establishments where a considerable number of horses were kept entirely for the road, and fed wholly on cut hay with corn-meal mixed with it. A sufficient quantity of hay is thrown into a large trough, wetted a little, and the due proportion of meal mixed, and stirred well together. Corn and cob-meal does well.

In answer to the question of our correspondent, "What food will fatten a horse quickest?" we reply, good sweet clover hay, free from dust, cured with all the heads and leaves on, with boiled potatoes and meal, or instead of the meal boiled oats, will fatten a horse very rapidly; and where the object was merly to *fatten* him, we would use this food.

DEFECT IN POTATOES.

At the Agricultural Meeting at the old State Hall on Thursday evening, April 25th, the subject for discussion was the defect which occurred in potatoes last year. Remarks were elicited from various gentlemen, and the subject seemed very much to engage the attention of all present. Dr. Lee observed that the defect which was complained of here last year, had prevailed in parts of Europe for several years, and he referred to the theory of some writers there, that the defect was occasioned by the degeneracy of varieties from age. The facts brought out at the meeting, did not seem to support the idea that the defect here, could properly be attributed to that cause, inasmuch as it did not appear to prevail most with the oldest varieties. The most hardy kinds, it seems, have been least affected, and the least hardy, as the Mercer, (or Chenango,) Foxite, &c., the most. It was nearly the unanimous opinion of those who spoke on the subject, that the unusual prevalence of the defect, (or as some called it "*disease*,") last year, was caused by the very warm and wet weather, following a severe and long continued drouth. This idea was supported by many statements that potatoes which were planted on dry soil, and so early that they reached maturity before the great change alluded to in the season came on, were scarcely affected at all, whereas the same varieties planted later and being in an immature state when the change took place, were nearly worthless when harvested, or had become so during the winter.

Dr. Emmons made some remarks on the nature of the defect. He had taken some pains to examine it, and he considered it quite analagous to *gangrene* in animals—he was satisfied it was not a fungus. He should suppose it would render potatoes unwholesome for animals, and he had heard of several cases where it was believed they had occasioned the death of cattle; but he knew a man who had given them in large quantities to hogs, and had not yet discovered any bad consequences from it to them.

It was the general opinion of the meeting that it is best to plant potatoes as early in the season as the ground is in suitable condition. The yield, it was thought, was generally better, and they were less liable to blight, or defect of any kind.

Cucumbers.—A writer in the London Gardener's Chronicle, says he has entirely discarded the old mode of allowing cucumbers to run on the surface of the ground, He trains them to trellises, and finds that he has not half the trouble with them that is required by the old plan, and that the plants continue much longer in bearing when so treated.

MINERAL MANURES.

Of all the manures termed mineral, those that come under the denomination of *sulphates*, or those in which the mineral base is combined with sulphuric acid, are perhaps the most important. Of these, the sulphate of magnesia, (Epsom salts,) sulphates of potash and soda, and sulphates of lime or gypsum, are the most common and useful.

The action of the sulphates is most conspicuous on the cultivated grasses, leguminous plants and the roots; on grains they do not produce results as decisive, though occasionally instances of great benefit from their use may be adduced. The chemical analysis of plants, carried on so successfully by the German experimenters, by determining the constituents of the several cultivated plants, has shown which of the mineral manures are the most necessary for each; and the results thus arrived at, are the more satisfactory, as they are found in the main to perfectly agree with those obtained in practice. To show this, we here append a table, for which we are indebted to Johnston's Chemistry. It shows the constitution of the ash of several grasses and clovers, so far as relates to the sulphates. One hundred parts of the ash of each was examined.

Sulphates.	*Rye grass.*	*Red Clover.*	*White Clover.*	*Lucerne.*	*Sainfoin.*
Potash,········	8·81	19·95	31·05	13·40	20·57
Soda, ·········	3·94	5·29	5·79	6·15	4·37
Lime, ·········	7·34	27·80	23·38	48·31	21·95
Magnesia,·····	0·90	3·33	3·05	3·48	2·88
Sulphuric Acid,	3·53	4·47	3·53	4·04	3·41

Great as is the effect of the sulphate of lime on white clover, farmers we think will generally agree that it is exceeded by the action on red clover, a result to be expected from the table; and still greater is the effect on lucerne, as some limited experiments made by us have demonstrated. This too, the analysis would indicate. The sulphates of potash we have never used, but the European journals declare the results of experiments on plants to conform to the analysis, and that as a dressing for white clover, it is superior to the sulphate of lime. Another useful hint may be taken from this table, which is, that a quantity of the sulphates which would be sufficient for one kind of plant, would be insufficient for another. Thus compare rye grass and clover, and it will be seen that a top dressing which would cause the first to thrive, would scarcely be felt by the latter. So far as regards the common grasses, rye grass, herds grass, timothy, &c. the nitrates are more efficient in promoting their growth than the sulphates, while for the clovers and their kindred plants, the sulphates are to be preferred.

If, as Prof. Johnston supposes, the value of the sulphates is to be mainly attributed to the sulphuric acid they contain, it would be important in forming an estimate of their respective values as a manure to ascertain the several proportions of sulphuric acid. This may be seen in the following table, in the first column of which the proportion of acid is shown, and in the second, the quantity of each that a gallon of water at the ordinary temperature will dissolve. Thus 100 lbs. of burned gypsum contain as much sulphuric acid as

126 lbs. common gypsum,	Gypsum burned 1-6th lb. to the gall.
128 " sulph. of potash,	" unburn. 1-4th "
104 " " soda dry,	Sul. of potash, 1-2 "
235 " " " crys.	" of soda dry, 1-2 "
180 " " magnesia.	" crys. 3 1-2 "
	" of magnesia, 4 "

These tables prove that the sulphate of lime is much the cheapest and best application of the sulphates, admitting that the value depends on the acid alone; and if we adopt the opinion of Liebig that its principal value is found in its being an absorbent of ammonia, the result will not be essentially different. Its effect too, will be the most durable; as the small quantity soluble in a given quantity of water, will prevent its speedy solution and disappearance in the soil. Where, however, plants are obliged to rely mainly on dews instead of rains for their moisture, a dressing of sulphate of soda or magnesia would be preferable, as more readily soluble. The better way then of applying the sulphates of soda or potash, would be in solution, very weak, and sprinkled over the growing crop from a water cart. Prof. Johnston thinks 100 lbs. per acre would be sufficient.

Considerable difference of opinion has existed among farmers as to the best time for the application of sulphate of lime to the soil or crops. We have found the most benefit when applied directly to the plants, but whether applied to the soil or to the crop, we have rarely if ever found it fail. We prefer using it after the plants are well advanced, and this opinion would seem to receive countenance from the experiments instituted by Prof. Korte to test this point. The plant was clover, and it was found that the produce of different parts of the same field was in the following proportions:

Undressed,........................	100 lbs.
Top dressed, 30th of March,........	132 "
" 13th of April, ...	140 "
" 27th of April, ...	156 "

This result would seem to confirm the opinion of Peschier, that gypsum on the leaves of plants is converted into a carbonate, by the absorption of the sulphuric acid.

TURNEPS.

Turneps are better adapted to light, than heavy soils. Sandy soils that are too light for potatoes, will frequently give a good crop of turneps, by the application of a top-dressing of ashes and some compost manure.

As a crop for winter feeding, the turnep is valuable, both for sheep and cattle. The common English flat turnep, may be sown as late as the latter part of July or the first of August, in this latitude, and will give a good yield. This kind does pretty well for feeding the fore part of the winter, but becomes soft and corky by January, and is not worth much. Other kinds keep better. The Yellow Aberdeen and the Swedish or Ruta Baga are probably as profitable for late feeding as any. The Ruta Baga should be sown in June, (as early as the 20th) to ensure the greatest yield. Much depends on the quality of the seed, and care should be taken to get that produced by the best shaped roots, and the more particular has been the selection, and the longer it has been continued, the better will be the seed, and the truer the roots. The same principle applies in this case as in animals—*selection* is the grand source of improvement. The turnep comes to the greatest perfection in rather northern latitudes; hence it is quite an object to obtain seed from those regions. The English and Scotch are usually very particular in selecting their turneps for seed, and on this account their seed is generally preferable.

The Ruta Baga keeps well, and with proper care will be good till May. It is considered a good root for sheep and young stock, but is not so well liked for milch cows on account of its tendency to impart a flavor to the butter. On this account, carrots or beets are preferred for cows.

The yield of the turnep crop, varies according to the quality of the soil, cultivation, &c., from 400 to 800 bushels per acre. The flat turnep may be sown after a crop of hay has been taken off the ground, and if well cultivated, will do well.

We prefer the *drill* mode of sowing turneps. It is the most exact—the roots are made to occupy the ground better—there is a better chance of working among them to keep down the weeds—there is a saving of seed, and a general saving of labor and expense, besides getting generally a better yield.

There are various machines for sowing seed. There is one made in the vicinity of Boston at a cost of only about five dollars, that answers *well* for sowing turneps, onions and seeds of that size. Others may be had of larger size, at ten to fifteen dollars.

For the Ruta Baga, the rows may be two feet or more apart, so as to give room for working the spaces with a small harrow or cultivator. By planting two rows pretty close together, say a foot apart, the other spaces may be left three feet apart, which will give ample room for the use of the cultivator, and the crop will not, probably, be diminished in yield.

Sprinkling gooseberry and currant bushes with soap suds, is recommended to prevent mildew.

CANE FLY OF GRENADA.

Through the politeness of Joseph I. Dill, Esq. of Bermuda, we have received from the Agricultural Society of the Island of Grenada, drawings of an insect called the "cane fly," which from 1831 to 1836, was the cause of great damage to the planters of that Island by its attacks on the sugar cane.

From the drawings and description, we have little hesitation in pronouncing the insect an *aphis*, a numerous tribe of parasitic animals, of which almost every plant has its peculiar species. We had not before heard of one belonging to the cane, and should be glad to learn whether it has been known in the sugar districts of this country. Its sudden appearance and exit at Grenada, as will be seen from the following communication, is very singular:

The insect was first discovered soon after the hurricane of 1831, and made its appearance on the windward coast, or St. Andrew's parish; it was therefore generally supposed to have been introduced by means of the hurricane, but it is not quite certain that it had not existed in the Island previous to that time, for a disease appeared among the canes on Telescope estate, some years before, but that was partial and created little inquiry, as the damage sustained was but trifling.

Its disappearance in the early part of 1836, is enveloped in as much mystery as its appearance; during all that time, every means was tried to destroy it, but without success; the cane leaves were washed with a mixture of soot, quick lime, lees from the distilleries, and all sorts of ashes were applied; tarred boards were used as traps, immense numbers were destroyed, but they continued to increase and spread.

At first, its ravages were confined to the vicinity of the St. Andrew's great river on the sea coast, and the estates in that immediate neighborhood suffered most throughout; some of them to the extent of three quarters of their usual crops, some two-thirds, and others one-half; for instance, estates averaging a crop of 300 hogsheads, were reduced to 60 or 80—gradually lessening as the insects increased from 1831 to 1834-5, when it was at its worst; estates in the interior suffered much less than on the sea coast. Cane cultivation being almost continuous from the above river in the direction of St. Patrick's, the insects spread rapidly, but where it was interrupted by brush or provision grounds, their progress was comparatively retarded. I am not prepared to state the extent of the damage sustained from St. Patrick's round to the lee side of the Island, but I believe it to have been much less than in the district above alluded to; a few were seen as far Beausjour, about 6 miles from St. George's.

From St. Andrew's towards St. David's, the cane cultivation is more interrupted, their progress was slow, and but little damage sustained; they did not reach Sesesse estate, which was their extreme point in that direction, until the year 1835, and not until the canes were sufficiently advanced in growth to defy their ravages. As before stated, early in the following year they disappeared simultaneously throughout the Island.

General remarks.—The insect commenced its ravages so soon as the young canes began to shoot, depositing its eggs on the backs of the canes as thick as possible. The plant immediately sickened, changed color to yellow, and from that to black; the leaves became covered with a glutinous substance, and the young canes either died, or their vegetation was so materially checked as to prevent their ever arriving at maturity; consequently the small quantity of sugar made from them was of very bad quality. Whole fields were thus completely blighted. On walking among the canes, the insects would rise in clouds.

During the prevalence of these insects in Grenada, I managed an estate in St. David's parish. In August, 1835, I went to England for the benefit of my health, and carefully preserved in a box prepared for the purpose, some infected plants, and I succeeded in conveying them alive to London, with the insects on their leaves in every stage, from the egg to the matured living fly. I placed them in the hands of the merchants in whose employ I then was, and whose estates, particularly in St. Andrew's parish, had suffered to the extent of many hundred hogsheads of sugar. I went away to the country myself, and my time was completely occupied, so that I know not what was the result of their inquiries, if any, relative to the insects; but I subsequently heard that my box and plants had been sent to the Entomological Society, London.

A Grenada Planter.

HAY MAKING.

We think it best to cut grass for hay, as near as possible to the time when it is in fullest bloom. Of course, if it is cut when most of it is in this state, some may be a little past, and some may not have quite reached full bloom. We know there has heretofore been some difference of opinion as to the stage grass should be in when it is cut, but we believe the experience of the best farmers is in agreement with the position above assumed. Those who are in the habit of curing herbs, cut them when in this stage, because it is known that they contain at that time the most of that peculiar principle from which they derive their efficacy and value. The saccharine or sugar principle, which constitutes one of the chief sources of nutriment in herbage, is found in the greatest quantity at the period of bloom. It may sometimes be expedient to cut grass before it has reached this state; particularly where it falls down, and is in danger of souring or rotting. When this happens, it should be cut, whatever state it may be in, because if it remains on the ground it will spoil, and the fermentation which takes place, will destroy the roots. Another great advantage in cutting grass before the seed forms, is that the roots are not so much exhausted, and the after growth is much more vigorous.

In some parts of the country, it is the practice to mow the grass and let it lie untouched on the ground, "thro' sunshine and shower," for several days before it is stacked or put in the barn. It is quite common to begin Monday and continue to mow till Saturday, when with hand-rakes and horse-rakes, all turn in, take it up and stack it; and this is done too, without much regard to the state of the weather at the time it is raked, or to what it may have been after it was cut. The appearance of the animals which are fed on hay thus managed, is evidence enough of its worthlessness.

After grass is cut and partly dried, it ought never to be exposed to dew or wet. The best way is to spread out the mown grass evenly, as soon as the wet has dried off from the spaces between the swathes, and before the dew falls in the evening, rake it and put it in cock. Where the crop is heavy, considerable time will be gained in making, by this plan. If it is only wilted when it is put in cock, it will in a short time undergo a *sweat*, which will much facilitate its making when it is again opened to the sun. Many good farmers believe that it will make more in two days, if it is kept in cock twelve hours, than it will make in three days without being put in cock.

In making clover hay, we are decidedly in favor of not exposing it much to the sun after it is first wilted. We speak from experience, having practiced various modes, and we are certain that it may be made with less labor, and that it is of far superior quality, when cured in cock, than in any other way. When the swathes are a little wilted, pitch them into cocks—laying it up in such a manner that it will stand the weather, which is easily done by the exercise of a little care. Examine the hay from day to day to see how the process of curing advances, and when it seems to be so well made that with what it will dry in handling, it will do to put in the barn or stack, turn over the cocks, loosen up the bottoms a little with a fork, and proceed to load it. Clover hay thus cured, is not likely to heat in the mow or stack, and from having every leaf and head saved, will be found to be very nutritious and much relished by all animals. In fact, we believe that clover hay, properly cured, will make more flesh, milk, or butter, than any other hay, pound for pound. The prejudice against clover, has arisen from the bad manner of curing it. Knocked about as it frequently is, wet and dried by turns, it loses its leaves and heads, and becomes little else than a mass of tasteless stems, which no animal will eat.

DICTIONARY OF TERMS USED IN Agriculture and its kindred Sciences.*

NICKING.—This is the name of an operation performed on the tail of a horse, to cause him to carry it in a more elevated position. It consists in cutting the tendons in several places on the underside of the tail, by the aid of a keen pointed knife, and then keeping the tail elevated by means of pulleys, &c. until it has healed. As the practice can scarcely fail to injure the strength of the animal, and as besides it is cruel and barbarous as well as useless, the practice should be exploded by all breeders or owners of this noble animal.

NIGHT SOIL.—The excrement produced in privies and cess-pools, a mixture of fæces and urine, has received this name, since its power as a fertilizer, has, under various names or forms of preparation, brought it into extensive use as a manure. Berzelius found 1,000 parts of night soil to contain

Water,	934 parts.
Urea (peculiar animal matter,)	30.10
Sulphate of potash,	3.71
" soda,	3.16
Phosphate of soda,	2.94
Muriate of soda,	4.45
Phosphate of ammonia,	1.65
Muriate of ammonia,	1.50
Acid matter, Acetate of ammonia, Animal matter and urea,	17.14
Earthy phosphates and fluate of lime,	1.00
Mucus,	0.32
Silica, (earth of flint,)	0.03
	1,000.

On the continent of Europe, under the name of Flemish manure, from the country where it first came into general use, it has for many years been highly prized, and procured, wherever possible, without regard to expense. Its disagreeable and offensive nature, directed the attention of scientific men to the means of disinfecting it; and various means have been resorted to in preparing it for use. In China, night soil is mixed with rich marls, made into thin cakes, and constitutes a regular article of traffic. In Germany and France, it is mixed with lime, charcoal, peat, or other substances, dried thoroughly into a dark colored powder, and under the name of *poudrette*, sold to agriculturists and gardeners. In the U. States, the manufacture of poudrette is carried on extensively in New-York and Philadelphia, and the manufacture will doubtless extend to all the populous cities and villages of the country. There is scarce a crop that is not materially benefitted by the use of night soil as a manure. It seems to be equally excellent for grain or roots; indeed we should naturally infer from its origin, that it would be valuable for all plants intended as food for men or animals. From some experiments made in England, it appeared that while the simple soil gave but 12 bushels of wheat per acre, when heavily dressed with night soil, the yield was 37 bushels per acre. Of potatoes, where the product of the simple soil was only 120 bushels per acre, a heavy manuring of night soil produced 650 bushels per acre. Used in the same quantity, it fully equalled bone dust, and was far superior to any other. On common farms it is not to be expected that this manure can be prepared in as scientific a manner as where regular manufactories exist; but there can be no good reason given why this source of fertility should be so much overlooked or neglected. Where out buildings are properly constructed, there is little more difficulty in preparing and removing this substance, than in disposing of any other. Charcoal, gypsum, ashes, peat, or even common loam, well incorporated with night soil, and dried or not, as the farmer pleases, can be used with little offence to the most delicate and fastidious. Such composts will be found the most effective of fertilizers, and the result on many plants, will prove truly astonishing.

NITRATES.—A combination of nitric acid with an alkali, forms a salt called a nitrate. Of these, those called nitrate of *potash* or saltpetre; and nitrate of *soda*, or cubic petre, are the only ones worthy of notice; and these, it is evident, occupy a prominent place among the agents that influence the growth of plants. Nitrate of potash, or saltpetre in its crude state, is principally brought from the East Indies, although large quantities are produced in Persia, Egypt, &c., and it can be manufactured in all countries with greater or less facility. In its pure state, it is composed of nitric acid 52 parts, and potash 48 parts. Nitrate of soda is composed of nitric acid 62.1 parts, and soda 37.9 parts. It is principally obtained from Peru, where it is found in the desert district, some 3,000 feet above the Pacific Ocean, in immense quantities, and of which, a most interesting account was given in a late No. of Prof. Silliman's Journal of Science.

The use of the nitrates for the purpose of agriculture, can scarcely be claimed as a modern improvement, since Virgil, Fitz Herbert, Evelyn, and many later writers, have spoken of its use and value. It is probable that the value of these salts arises from the amount of nitrogen they contain, since when nitrogen is evolved, it combines with oxygen, and thus forms nitric acid, which is the base of these salts. When powdered, and strewn upon the soil, a decomposition takes place, and the nitrogen appears to be made available to the plants, while the alkaline matter enters into new combinations in the formation of silicates, &c., essential to the growth of plants. There are indeed a few plants into which saltpetre enters as a constituent of the plant itself. Such is the horse radish, sunflower, nightshade, &c., but with the exception of barley, in which nitrate of soda exists in small quantities, neither of the nitrates has been detected in any of the cultivated crops of the farmer. It would seem then, that it is not as a direct article of food to plants, that the nitrates produce their result when applied.

The nitrates are most valuable as manures, when applied to light soils of gravel or sand; and an amount of about 100 lbs. per acre is found to be the most effective dressing. On wet, or heavy clay soils, it produces little effect; in this respect, resembling the action of gypsum or sulphate of lime. Experience shows that it produces the best effect when made fine, and used in moist weather. On clover, wheat, and grasses and grains generally, its operation is admirable, but in this country, where gypsum can be obtained at rates so low, compared with the nitrates, it is not probable they will ever come into use extensively. Where the nitrates are used, the grain or grass assumes that peculiar rich, deep green color, not observed, unless where manure containing nitrogen or ammonia in considerable quantities has been used. Those who wish to investigate the subject farther, will find abundant means of doing it in the Chemico-Agricultural works of Liebig and Johnston.

NITROGEN.—A gas, which constitutes 79-100ths of our atmospheric air, and which is formed by the decomposition of a great variety of substances, is called at the present time, nitrogen, though formerly known as azote, from its destructiveness to life. In the air, it exists as a chemical compound with oxygen, but when combined with this substance, it forms nitric oxide, nitric acid, &c. Combined with hydrogen, it forms ammonia, one of the most essential elements of vegetation. It enters into the formation of animal matter with the exception of fat and bone, forms a part of most vegetable alkalies; and though in its gaseous state, fatal to animal life, the experiments of Majendie, confirmed in a most remarkable manner by the chemical researches of Liebig, prove that animals cannot exist for any length of time on food destitute of nitrogen. Nitrogen has long been considered as one of the simple elements, but the experiments of Faraday would seem to render it probable that it is, after all, a compound. In the parts acted by various agents in the nutrition of plants, nitrogen exercises a most important one, as the action of the nitrates when applied to soils or crops, demonstrates. Indeed, it seems to be very satisfactorily established, that the value of manures is to be estimated principally by the quantity of nitrogen they contain or are capable of furnishing for the use of plants.

---

* The publication of this Dictionary of Agricultural Terms was commenced in the 7th vol. of the old series of the Cultivator, and continued in that and the succeeding volumes to the termination of the letter M. It was written by our late associate, Mr. Gaylord, and the portion we now give, concludes the series written by him

NUTRITION.—The value of different substances for nutrition, or for promoting the growth of animals or plants, varies materially, and as all cultivation has for its end this principal object, the proper understanding of its nature, and the best means of effecting it, has long been a subject of anxious research. It must be acknowledged however, there are many points connected with this most important function of nature, still involved in mystery; while these researches have thrown considerable light on the general questions involved in the inquiry. The substances that nature employs to promote growth and sustain life, are termed *food*, whether employed for the nutrition of plants or animals; and if the latter cannot exist on the materials that support the former, it does not render less important the action of the former.

The original elements of nutrition appear to be but few in number; and there appears to be a regular gradation in the perfection of organization and combination of the materials required for nutrition, from the most imperfectly organized vegetable, to the highest limit of organization, as existing in man. Each plant or animal in the scale, feeds on materials prepared by the one placed below him; and which appears to have given to the elements a new combination for this express purpose. From this beautiful provision of nature, there is no deviation, except such as is forced and unnatural. Materials once organized, and endowed with life, never lose the power of contributing to life in a much greater degree than those not so endowed; hence the necessity of some medium between animals and unorganized matter, a medium filled by the vegetable. Man compels all organized matter to contribute to his sustenance; he alone appears to be omniverous; yet man finds some substances better adapted to his nutrition than others, and frequently pays the penalty of disregarding the admonitions of nature on this point. It is a singular fact, that of all the substances used for the purposes of nutrition, there is but one and only one intended for this purpose and for nothing else, and that one is milk. A knowledge of this, has greatly aided the researches into the practical value of different substances for food, as it was reasonable to suppose that those containing the same elements as milk, or which by the action of the stomach could be converted into such, would be the most valuable; a result fully justified by experiment and observation.

Of meat, the most nutritive parts are the muscular, or the dark colored meats, while the white meats, fat, gelatinous parts, &c. contain much less that is suitable for nourishment. This result seems to be owing to such parts containing less nitrogen, or the principle termed ozmazome, and hence are unsuitable for those whose digestion is impaired or defective. Of meats, lean beef contains the most nutritive matter, and is for the purposes of food, of course superior to all others. Of plants, wheat contains the most nutritive matter, containing, according to the reports of Percy and Vauquelin, 80 lbs. in 100. It is true the same chemists rated beans higher than wheat, as they did peas; but later investigations do not seem to have sustained them in their decision, although in all cases peas and beans have ranked next to wheat. Butcher's meat, on an average of the common kinds, gives about 35 lbs. in 100 of nutritive matter; and potatoes only about 25 lbs. in 100. "Thus 1 lb. of good bread is equal in nutritive power to 2¾ lbs. of the best potatoes, and rather more than equal to 2 lbs. of meat; while 75 lbs. of bread and 30 of meat are equal to 300 lbs. of potatoes." (Johnson on Food.) There is one thing, however, that must not be overlooked in all discussions on nutrition, and that is, that when substances containing the most nutritive matter are taken exclusively, more is used than is required, as the material of distention as well as nutrition is required in all substances taken as food. To the healthy action of the stomach, without which the functions of nutrition must be imperfectly performed, it is indispensable that bulk should be combined with the nutritive matter in proper proportion, and it is this that in no small degree constitutes, so far as convenience and health is concerned, the actual value of any given article of food. A man or an animal will indeed live for a time on those substances alone, that contain the most nutriment; but experiments prove that they will not retain as good health or do as well as when a portion of more bulky and less nutritive food is combined with the richest. Thus a horse will not do as well on wheat, as on oats, because the bulk of the latter is better proportioned to the nutritive matter required for vigorous health than in the former. Indian corn too, one of the richest of all articles in nutriment, should always be given to animals in connection with cut straw or chaff of some kind, or no small portion of its value is lost, and the animal not unfrequently injured. We know of some excellent observing farmers, who prefer mixing one-third oats with the corn they give their fattening pigs as food, and would prefer the oats even at the same price as corn, rather than feed the latter alone. Farmers complain that barley does not agree with horses as food. The reason is they do not in feeding, take into account the greater amount of nutriment contained in barley over oats, which make the common standard of feed so far as bulk is concerned, and hence the horse, as when fed with wheat, becomes fevery and ill.

A comparison of the several kinds of vegetable food, generally used for the purposes of nutrition, cannot but be useful, as showing the farmer what quantity of one, may be substituted for another. The following table, given in Burger, from Petris' work on the "care and keeping of sheep," may be considered as a list of equivalents. It will show that while of some an animal could scarcely eat enough to support life, of others the nutriment would greatly exceed what the wants of the animal demanded.

100 lbs. sweet, well cured meadow hay, containing 50 lbs. of nutritious matter, are equal to

90 lbs. clover hay,	100 lbs. of which contain	55½ lbs.	nutritive matter.
90 lbs. tender vetch hay,	do	55½ lbs.	do
90 lbs. tender lentil hay,	do	55½ lbs.	do
360 lbs. wheat straw,	do	14 lbs.	do
500 lbs. corn straw,	do	10 lbs.	do
180 lbs. barley straw,	do	27½ lbs.	do
200 lbs. oat straw,	do	25 lbs.	do
200 lbs. pea straw,	do	25 lbs.	do
190 lbs. millet straw,	do	26½ lbs.	do
200 lbs. horse bean straw,	do	25 lbs.	do
180 lbs. chaff,	do	27½ lbs.	do
200 lbs. potatoes,	do	25 lbs.	do
200 lbs. cabbage turneps,	do	25 lbs.	do
200 lbs. yellow turneps,	do	25 lbs.	do
400 lbs. white turneps,	do	12½ lbs.	do
300 lbs. beets,	do	16¾ lbs.	do
500 lbs. white cabbage,	do	10 lbs.	do
82 lbs. Indian corn,	do	95 lbs.	do
82 lbs. wheat,	do	95 lbs.	do
55 lbs. rye,	do	90 lbs.	do
61 lbs. barley,	do	82 lbs.	do
64 lbs. buckwheat,	do	78 lbs.	do
71 lbs. oats,	do	70 lbs.	do
54 lbs. peas,	do	93 lbs.	do
54 lbs. horse beans,	do	93 lbs.	do
83 lbs. wheat chaff,	do	60 lbs.	do
105 lbs. wheat bran,	do	48 lbs.	do
109 lbs. rye bran,	do	46 lbs.	do

To keep in equally good condition, it appears from various experiments, says C. W. Johnson, that a horse will consume as much food, besides grain,

As........................	8 sheep,
A cow as much as...........	12 "
A fattening ox as much as.....	10 "
A 3 year old heifer as much as	8 "
A 2 " "	6 "
A 1 " "	4 "
A calf as much as............	2 "

CURE FOR SORE TEATS.—Archibald Jones, Esq. of Frankfort, Me., writes to us that a good remedy for sore teats is to make an application to them of molasses at the time of milking. This confirms what other friends have communicated on this subject.—*Boston Cultivator.*

CONDENSED CORRESPONDENCE.

Early Importation of Merino Sheep.—In speaking of the importation of Merino sheep by Mr. Jarvis, in the April number of the Cultivator, we alluded to an importation made into Massachusetts by Mr. Seth Adams, now of Zanesville, O. We have since received a letter from Mr. A. giving an account of his importation, in which he says:—"I imported in the brig Reward, Capt. Hooper, which left Diepe in August, 1801, and arrived in Boston in October following, a Merino ram and ewe. These I believe were the first pair of Merinos imported to the United States. The Agricultural Society of Mass. having offered a premium of $50 for the importation of a pair of sheep of a superior breed, Col. D. Humphreys of Connecticut, imported a flock of Merinos, (say 100,) and sent some of them to Massachusetts, and he, or some one for him, applied to the Society for the premium. Knowing, from report, that his sheep did not arrive before the spring season *after* the arrival of mine, I applied at the same time for the premium, and after having examined the sheep and wool, and comparing with those of Col. H., the Society awarded to me the premium, and awarded to Col. H. a gold medal for having imported a larger number. My sheep were from the flock brought from Spain by Bonaparte, and distributed through France to improve the flocks of that kingdom."

Pigeon Weed or Red Root.—"C. M. A. J." of Tompkins County, says—"The plan adopted by the farmers in this section of country, is by plowing in the fall, the usual time of sowing wheat; again in the spring, when the ground can be used for summer crops of any description, and I will guarantee, yea more, I will stake my reputation upon it, that all that makes its appearance in the fall and spring, will *never* do so again. This method is considered with us, the most economical and effectual of any yet discovered, of *eradicating the evil. Try it, and you will know.*"

Farming Capital.—From a communication by Mr. L. Durand, we make the following extracts:—"I think it correct to say, that a liberal expenditure of capital in farming, will ultimately pay better than when laid out in any other business. The difference between capital laid out in farming, and that laid out in manufacturing, is, that all which is expended in the latter beyond the actual profits of the goods manufactured, is a dead loss, while that which is laid out on the farm, under good management, causes it to improve and increase in value from year to year. In manufacturing, the interest on the capital may be received within six months or a year. In farming, it may not be so, but it will be sure to give its return in a series of years. Another item which has been much neglected by farmers, is that of purchasing *good implements* to carry on their farming operations. In this country, where manual labor is high, a farmer should obtain as many labor-saving implements as can be used to advantage. Although these implements may cost more at first than common ones do, they will find their account in it at last. Get the best implements to be had, even if you have to go out of the State for them, and you will thus be able to perform more work in a better manner, besides saving much labor, and preventing a great deal of *fretting* and ill temper. Try it and see."

Names of Animals.—A correspondent with the signature of "Junius," has sent us a long communication censuring what he calls the "misguided tastes of many of our breeders of fine stock in selecting names for their animals." We think his remarks entitled to some consideration, but can only find room for the following extract:

"It seems to be a desirable object with many, to select refined, genteel and pleasing names for their favorite animals, at the expense of modesty and etiquette. To me, it has been a source of mortification, to see old and cherished names of my own family, and respected acquaintances and neighbors, applied to soulless brutes. Go into any school-house in the land, and you will see bright looking boys and girls, with countenances flashing with the soul of genius and thought, answering to the same names that are applied to the inmates of the stables, cattle-yards and pig-sties. Not long since, I was called on to give a name to a bright eyed little cousin of mine. Feeling the responsibility of my trust, I had recourse to the 'old family bible.' After looking over a long line of ancestry, I found a name that sent a thrill of pleasure through my nerves: it was *Emma*. The present to accompany the name was bought; but imagine my surprise, in looking over my paper for that month, I found a statement that Mr. —— had a poor broken backed cow (sacriligiously) called Emma, that gave a great quantity of milk, from which was made 3 pounds of butter per day. To use a tailor's expression, I was completely '*sewed up*.' But to confess the truth, the tenderest point of all, is this; the name of the fair enchantress of my dreams, is *Julia*—for my especial *benefit*, Mr. —— has a mammoth Durham cow, which he calls by the same name! What an association! Now my Julia is beautiful and accomplished, speaks French, and plays the piano and guitar, &c.—she is a scion from one of the first families in the state. Hear Mr. ——'s description of his Julia. 'Julia is six years old—a thorough-bred Durham from the stock of Mr. ——. She combines more good points than I ever saw in any other animal. She is broad in the hips, long and straight on the back, thin in the neck, well cut up under the jaw, round in the barrel, fine in the twist, has a prodigious udder, is deep and broad in the bosom, evincing good constitution, &c.'

"The idea of giving notoriety to an animal, by means of a fine name, is, I think, indicative that the owner has a '*strong cross*' of vandalism. When animals attain the organic perfection of man, when they are endowed with a soul to reason and will to execute, then they may be considered entitled to the names, titles, and property of our species."

Bees.—To stop bees from fighting and robbing one another, break the comb of the robbers so that the honey will run down among them, and they will go to work at home. I had two hives of bees destroyed this month by being robbed, and should have had another robbed, if I had not received the above information. R. S. Borden.

Fruit.—Mr. George Olmstead, of East-Hartford, Conn., informs us that Mr. Horace Williams of that town, gathered from five trees last fall, 160 bushels of apples, of the *Belle le Bonne* variety, which sold in market at 42 cents to $1,50 per bushel. Mr. W. thinks that he realized from the above trees, at least $100, equal in value to 200 bushels of Northern Indian corn, one year ago.

Saline Manures.—Mr. Feuchtwanger informs us that he is prepared to sell the super-sulphate of soda at half a cent per pound. This substance, when mixed with manure, or other animal substances, will be decomposed, and a sulphate of ammonia formed. He has also the crude and refined sulphate of ammonia, at 6 and 8 cents per lb., also, nitrate of soda by the bag at 5 cts. per lb. Mr. F. informs us that his compound chemical whale oil soap, is composed of the crude whale oil, potash, flour-sulphur, lime, and oil of camphor, and is a very valuable antidote for the coccus, rose-bug, curculio, &c., and it is said has been used with good effect in the orange groves of Florida.

Farming in Connecticut.—Our friend "Quercus," after stating some of the difficulties and perplexities attendant on commencing farming operations on a soil which had been worn out by bad management, says:—"So, the year has gone round—all the avails not counting 3 per cent on any respectable estimate of the value of our 300 acres! This is not a fancy sketch. I can even count dozens in no better condition, from my window, now; but nine out of ten are mortgaged. None of their managers take the Cultivator, you may be sure. But how do they live? They sell a little wood, and burn coal and live cheap, and buy nothing for money, and shoot foxes; starve their cattle and eat the carcass! But 'my man,' some bluff westerner would say, 'give away your land, (for I know it can't be sold,) get you a bit of our unexhausted soil, and begin again.' It is the easiest thing in the world to give advice to those of whose circumstances you have no knowledge. Still were no circumstances in the way, I should be loth to think and act upon the thought, that a proper degree of energy and skill and foresight, will not spread fertility like a mantle, all over these rocky hills and these mossy meadows. Beside there are attractions here—there are warm hill-sides in winter, and cool, rustling breezes in summer, and glorious old oak woods, and a hundred brawling brooks, that (you may laugh, if you have a mind to,) if the memory of their noisy prattle run's back to boyhood, call louder on a man, than the yellowest mint drops.

"At any rate, I will try what can be done to make my farm worthy of a history. If the resources which such men as Mr. Jas. Johnston have opened to view, be not *humbug*, if the system of changing crops, of multiplying manures, of more effectual tillage, of adequate protection to cattle, if careful feeding be not wholly impracticable, if the history of your most successful croppings be not fairy tales, and the *locum in quo* a fairy land, why, *something shall be done here*. The progress of my trial, I shall open in scattered continuations of this history, neither exaggerating or concealing, in the hope that it may possibly be useful."

AGRICULTURE OF MICHIGAN.—Our correspondent "P." of Buffalo, says:—"In a recent trip through several counties in Michigan, I was agreeably surprised to find so great improvement in agriculture. Many farms in the older settled counties will compare favorably with the best improved farms on the line of the Erie canal; and the large surplus products they are sending off, particularly of wheat and flour, are a sure and very gratifying mark of great agricultural prosperity in the State. The rail road from Pontiac, the county seat of Oakland, though but 26 miles in length and carrying only the products of that county, brought to Detroit the last fall over 40,000 bbls. of flour, besides large quantities of other produce. The Central Rail Road running west from Detroit, was also crowded with freight cars the most of the season. Agricultural societies have sprung up in several places, and are producing a visible and happy effect among the farmers; and I observed a notice of a fair to be held in the spring, I think in Lenawee county, for the purpose of buying and selling stock and hiring help. Would not such fairs be specially useful in New England and New York? The soil in large portions of Michigan is admirably adapted to the culture of wheat, and 35 bushels per acre is not an uncommon crop among the farmers. There is, however, but little appearance of system, or of a proper rotation of crops, and the skinning practice prevails. The course pursued by many is to crop the land constantly for a few years, and then sell out and take up the line of march westward. Still Michigan, possessing generally a very rich soil, and water communication around it and through it equal to any State in the Union, and streams for an abundance of mill-sites in almost every connty, is destined to attain a high rank in agriculture. The tide of immigration, arrested somewhat in past years by reason of an injudicious system of taxation, which is now in a measure abandoned, is beginning to roll in upon the State as formerly; large fruit-bearing orchards and thrifty nurseries appear here and there even in the newer counties, and a bold enterprise marks the general movements of the people. Success to thee, Michigan, in all that pertains to the culture of the soil and the mind; let your poultry-yards be graced with poland chickens, your piggeries with Berkshires and Woburns, and your fields with many more Durhams and Herefords, and you cannot but prosper."

PLASTER ON POTATOES.—Those who plowed green sward last fall for the purpose of planting potatoes this spring, will find that a spoonful of plaster, applied as soon as the potatoe comes up, will increase the harvest. Plaster seems to aid the potatoe on all kinds of land, though not equally. We have seen soils where a common spoonful of plaster proved as useful as a shovelful of manure.

If the land is in good order and the soil sufficiently mellow, the potato vines will need but very little hilling. The potatoes will make a bed for themselves in the rotting sod. We have raised at the rate of 400 bushels to the acre without hilling up enough to hide the plaster; it could be seen through the summer.—*Bost. Cult.*

COWS.

We make the following extract from an old volume of the Mass. Ag. Reports, both because an extended observation has convinced us that the quantities stated are in the main correct; and because it appears to furnish matter for some useful reflections:

"A milch cow of *medium quality* in this State, (Mass.) will give, it is supposed, 12 quarts of milk per day for 2 months after calving, and about 7 quarts per day on grass feed for the next four months, 4 quarts per day for the next two months, and perhaps 2 quarts per day for one month longer. Altogether, 1,500 quarts in a year.

It takes 9 quarts of milk to give a lb. of butter, and 4 quarts to yield a lb. of cheese. The skim milk and dairy whey of a cow, may be valued at $3 per annum.

Now a cow that gives 1,500 quarts of milk in a year will produce

166 lbs. of butter, worth at 16 cts. per lb.	$26,56
Skim milk, ...	3,44
	$30,00

Or 1,500 quarts of milk will give at 4 quarts to the lb. of cheese,

375 lbs. which at 8 cts. per lb. will be,..	$30,00
Whey, ...	3,00
	$33,00

Nothing is said of the worth of the calf, as all the milk the cow gives is credited. A milch cow's keeping in the interior cannot be much short of $25."

That a majority of cows kept by our farmers for milk, do not give a greater quantity than that here named, will it is believed, be readily admitted. The prices, both of produce and keeping are higher than at present; but as they will neutralize each other, there is no necessity of taking them into the account. It must also be admitted, that there are many cows that greatly exceed the quantity of milk here stated, and some that yield more than double that amount.

That by attention to the breed of animals; to the rearing and selection of the stock from which the cows are to be chosen, to the choice of bulls from breeds of known milking qualities, and attention to the milking of the heifers, and proper feeding of them, cows in general could be brought up to standards in which the milk should be nearly or quite double the present ordinary quantity, we think there can be little doubt. It is because farmers have been contented with so low a standard, because with them "a cow is a cow," no matter what may be her milking properties, that the average amount of milk produced by them is so small.

It is not a very extraordinary cow that holds her milk for 10 months, that will give 8 quarts at a milking for two months, 6 quarts at a milking for the next four months, 3 quarts at a milking for the next 3 months, and 2 quarts per day for another month. Yet such a cow would yield 3,000 quarts of milk in a year, and of course the products of butter and cheese would be doubled. Admit that it was necessary to expend five dollars to procure materials for extra feed for this cow, bran, shorts, or grains, to be fed in mashes, (for it may be considered a fixed rule, that to keep cows in equally good condition, the greatest milker must receive the most food,) and with the exception of this expense, the profit of such a cow would be double that of an ordinary one.

The keeping of cows is much like the cultivation of land. If the crop does not reach a certain amount, there is a loss to the farmer, or the crop may precisely equal his expenses, the year leaving him as it found him; but all above this is a profit, and the more he can increase this balance, the greater his gain. So with a cow; if she does not give a certain quantity, she does not pay for her keeping, and the more such cows a man has, the worse off he is. On the contrary, all above a given yield is clear profit, and the farmer, or the dairyman, has every inducement to increase this amount as high as possible. This matter is one that commends itself to the consideration of every owner of stock, and particularly to the milk and dairyman.

New Publications.

"EUROPEAN AGRICULTURE AND RURAL ECONOMY."

The first number of this work, by Rev. HENRY COLMAN, has just been issued by A. D. Phelps, Boston. It is likewise published simultaneously in London. It is well printed, and is written in the peculiarly interesting and happy style of the author. The present number is in a degree miscellaneous, and can be considered scarcely more than an introduction to the general work, yet it embraces many valuable observations, and we think cannot fail to give satisfaction to its numerous patrons in this country. Among its contents, are chapters on the science of agriculture—English agriculture—English capital—general appearance of the country—hedges and inclosures—iron and sunken fences—the English parks—ornamental shrubs and flowers—climate of England—agricultural population—landlords, rents, and taxes—the farmers—the agricultural laborers—the allotment system.

Of the energy with which agricultural improvement is pursued at this time in England, and of the importance of agriculture, he thus writes:—

"England presents at this time a more brilliant example than any age or country has before witnessed of the application, I will not say of science, for that would not comprehend the idea which I wish to express, but the application of mind to agriculture. The practice of agriculture, and the philosophy of agriculture, are matters of universal interest. Men of all grades and conditions are laboring in this great cause, and are asking for the how, and the why, and the wherefore. The brightest intellects are directing their talents to agricultural inquiries; and the humblest in their humble but not inefficient way, are seconding their efforts. So many minds concentrating their rays upon the same point, they must be sure to illuminate it with an extraordinary brilliancy.

"Agriculture is now getting to be recognized as the commanding interest of the state; so it must ever be as lying at the foundation of all others. Few persons are apprised of their obligations to agriculture; and it is difficult to estimate the extent of these obligations. Every man's daily bread, his meat, his clothing, his shelter, his luxuries, all come from the earth. The foundation, or as the French would say, the *materiel* of all commerce and manufactures, is agriculture; and its moral influences are innumerable and most powerful."

In the chapter on "English capital," Mr. Colman says:

"Another marked distinction, already alluded to, between the condition of the proprietors of the soil here and with us, is in the amount of capital existing here. It is absolutely enormous; and almost distances the system of enumeration which we are taught at our common schools. Let me mention some facts which have been stated to me on credible authority; and let me premise that a pound sterling is about equal to five dollars United States currency. Under a law of the present government, here, levying a tax upon every man's income when it exceeds one hundred and fifty pounds sterling a year, persons liable to taxation are required to make a just return of their income under a heavy penalty. A confectioner, in London, returned, as his annual income, the sum of thirty thousand pounds sterling, or one hundred and fifty thousand dollars, or, six times as much as the salary of the President of the United States; which showed, at least, how skilful he was in compounding some of the sweets of life. A nobleman, it is said, has contracted with a master builder to erect for him, in London, four thousand—not forty—not four hundred—but four thousand houses of a good size for occupation. In some of the best parts of London, acres of land, vast squares, are occupied with large and elegant dwelling houses, paying heavy rents, in long rows, blocks, and crescents, and all belonging to some single individual. One nobleman, whose magnificent estate was left to him by his father, encumbered with a debt of some hundred thousand pounds, by *limiting*, as it is termed here, his own annual expenditure to thirty thousand pounds, has well-nigh extinguished this debt, and, in all human probability, will soon have his patrimonial estate free of encumbrance. The incomes of some of the rich men in the country, amount to twenty, twenty-five, fifty, one hundred thousand, two hundred thousand pounds sterling—even three hundred thousand pounds annually. It is very difficult for New England men even to conceive of such wealth. A farmer in Lincolnshire told me that the crop of wheat grown upon his farm one year was eighteen thousand bushels. The rent annually paid by one farmer in Northumberland, or the Lothians, exceeded seven thousand pounds, or, thirty-five thousand dollars. These facts, which have been stated to me by gentlemen in whose veracity I have entire confidence, and who certainly are incapable of attempting any "tricks upon travellers," show the enormous masses of wealth which are here accumulated."

Speaking of the state of "English agriculture," he says:

"The condition of practical agriculture in Great Britain, as far as I have had an opportunity of observing it, must be pronounced highly improved. Many parts of the country present an order, exactness, and neatness of cultivation greatly to be admired; but a sky is seldom without clouds, and there are parts of England where the appearance is any thing but laudable, and where there are few and very equivocal evidences of skill, industry, or thrift. We are often told in America that England is only a large garden, in which art and skill and labor have smoothed all the rough places, filled up the hollow places, and brought every thing into a beautiful and systematic harmony, and into the highest degree of productiveness. This is not wholly true; indeed, although there are many farms to be altogether admired for the degree of perfection to which their cultivation has been carried, yet there are not a few places where the indications of neglect and indolence and unskilfulness are but too apparent; and where, in an obvious contest for victory between the cultivated plant and the weeds, the latter triumph from their superiority both in force and numbers."

Of the condition of the laboring agricultural class, he says—"The condition of the laboring agricultural class is certainly, in many parts of England, exceedingly depressed; and though in frequent instances it may be called comfortable, in few that I have seen can it be considered prosperous. Their labor is not extraordinarily severe; they are by no means treated with unkindness, or, excepting through the misfortune of the ill-temper of their employer, with severity; they are decently clad, and there is a great amount of active benevolence everywhere at work to assist them, and to alleviate their distress in sickness and misfortune. But they are very poorly fed; with many exceptions, they are wretchedly lodged; their wages are inadequate to their comfortable support—and their situation affords little or no hope of improvement—at least, the power of making it better does not rest, where it should, with themselves."

"I am not at all disposed to quarrel with any of the institutions of this great and enlightened country—great and enlightened as a whole, beyond almost any precedent. I am not disposed, in any offensive form, to profess my own preferences for institutions to which birth and education may have strongly attached me, founded as they are on the great principles of universal liberty as the birthright of every man, and of social equality as conformable to nature, and the only relation in which men can stand to their Creator, or under which they would dare to approach him. But to my mind, it is obvious that no great improvement can take place in the character and condition of the laboring population while they remain a distinct and servile class without any power of rising above their condition. At present the most imaginative and sanguine see no probability of their rising above their condition, of being any thing but laborers, or of belonging to any other than a servile and dependent class. The low state of their wages absolutely forbids the accumulation of any property. They cannot own any of the soil which they cultivate. The houses which they occupy belong not to themselves, and they may at any time be turned out of them. They must ask leave to live, or they must take it by violence or plunder when they will not be suffered to live. Their only home is the grave, and even their repose here is not always secure."

We forbear to give further extracts at present, as the work deserves to be read in detail to be fully appreciated. The future numbers will embrace remarks on cultivation in general—live stock of every description—the breeding, rearing, and fattening of stock—the dairy—horticulture—rural architecture—agricultural schools and experimental farms—veterinary establishments, &c. &c. The present No. contains 100 pages, octavo, and it is expected the work will embrace 10 numbers of the same size—the price for which is $5. Published for the Author, by A. D. Phelps, Boston.

The following extract from the Mark-Lane Express, shows the favorable reception which Mr. Colman's work has met in England:

"The readers of the *Farmer's Magazine*, who have already perused the Count de Gourcy's Agricultural Tour, will be forcibly struck with the marked difference of character of the two works, and which, in this very early state of the publication, shows that, whereas the Count was content with giving a pleasant narrative of what he saw—only, as it were, skimming the surface—Mr. Colman will go more profoundly and practically into his subject, and which induces us to augur well of the result. We were prepared to expect that he would treat the subject in rather an English manner; and with the exception of some few remarks, in which, we think, he does not make sufficient allowance for the different state of the social body as a whole, in England, as compared with the United States, we are right well pleased with what we have perused.

"The remarks which he makes on the relative state and position of the several classes of the agricultural body in England are not only interesting, but furnish matter for serious reflection, seeing that they are made in a spirit devoid of that prejudice which but too frequently displays itself in works of a similar character."

REPORT OF THE COMMISSIONER OF PATENTS.

This document of 335 pages, is one of the most valuable that has been issued. The Commissioner, Mr. H. L. Ellsworth, is entitled to great credit for his indefatigable zeal and industry in the collection and diffusion of useful facts, which cannot fail to be of great advantage to the country. The dissemination of valuable seeds, is of itself an object of great importance. Of these, Mr. Ellsworth has distributed no less than twelve thousand packages during the past year. He mentions a variety of *rice* now cultivated in high latitudes and even on the edge of the snows of the Himalaya mountains, from which circumstance he concludes there is every reason to believe that upland rice will flourish wherever Indian corn will ripen. Some seed has been ordered for this country, which Mr. E. hopes ere long to have ready for distribution. The *multicole rye* has been considerably diffused in this country, and we shall probably soon know what success has attended its cultivation.

Mr. Ellsworth speaks of the construction of houses of unburnt clay. Several experiments recently made in the United States and Canada, seem to prove the expediency of erecting houses of this description. With a good foundation of stone, there is no doubt of their durability. In Egypt, unburnt bricks have been found in arches, undecayed, that have stood the lapse of 2,000 years. Mr. E. has himself erected one of these houses near the capitol at Washington, which appears as handsome as the best brick houses. It is warm in winter and cool in summer, and where clay is abundant and timber scarce, he does not hesitate to recommend this mode of building.

A process for *preserving wood*, by Dr. Boucherie, of the French Academy, is spoken of, by which it is said, wood has been rendered so hard that the wheel of a rail-road car, leaves no trace after more than a year's use.

A machine for *ditching*, by which, with ten yoke of oxen and five hands, ten miles of ditch, 14 inches deep and 28 inches wide at the top, may be excavated in one day, at an expense not exceeding 3 cents per rod. A larger machine will excavate a ditch three feet deep.

Hosiery is now made in this country with astonishing rapidity, by the aid of the power-weaving loom—an American invention, not yet introduced into England. It is a full day's work to knit by hand two pair of drawers. A girl with the power-loom, will make twenty pairs in a day. A piece 28 inches long and one inch wide, can be knit in one minute.

Hooks and eyes. Thirty years ago the price was $1,50 per gross; now it is only 15 to 20 cents. At one establishment in New Britain, Conn., 80,000 to 100,000 pairs are made per day, and plated by a galvanic battery, or the cold silver process. The value of this article consumed in a year is stated to be $750,000.

Mr. Burden's improved *horse-shoes* are spoken of. At a factory recently erected by Mr. B. at Troy, *fifty tons* of these shoes are turned out per day. They are sold at the price of only five cents per pound, which brings a set of shoes at about twenty-five cents. It is believed that these shoes can be exported to Europe to good profit.

The improvements in the manufacture and making up of leather, have greatly reduced the price of shoes. Those who have not turned their attention to this matter may be surprised to learn that leather made water proof, will last a third longer than other kinds. The annual saving in the cost of this article in the United States, by this improvement, is estimated at not less than $16,000. A very simple composition of rosin, bees-wax, and tallow, applied warm to the soles and uppers, so as to thoroughly saturate the leather, is found very effectual for this purpose.

By the new process of *sugar making*, invented by Prof. Mapes, one establishment in the city of New-York produces from 15,000 to 20,000 pounds of sugar per day from common West India molasses. The sugar is generally superior in quality to that made from the cane in Louisiana. Molasses which has become *sour*, is often used with good effect.

The *electro-magnetic telegraph*, is spoken of as one of the great improvements of the age—one that is destined to exercise a great, and it is believed, a happy effect in the transmission of intelligence from one section of the country to another. Experiments already made in England and on the continent, leave no doubt of its practicability, and this will ere long be further tested on the rail-road route between Washington and Baltimore. The rapidity of communication by this means, is truly astonishing. The rate at which the electro-magnetic fluid passes, according to Mr. Wheatstone, is 288,000 miles, (equal to eleven and a half times around the globe,) in one second! We see the "streak" of lightning in the heavens, but it leaves no trace; the stream is passed in less than a twinkling of an eye, and is gone far beyond our sight. In the same manner, with equal swiftness, the electro-magnetic fluid, unerringly conveys the intelligence entrusted to its operation. The medium employed is simply a copper wire, insulated and extended on posts, at an expense not exceeding $150 per mile. The advantages of this mode of communication must be obvious both in war and peace. The most extreme points of the country can enjoy the earliest intelligence of the markets, and thus be prepared against speculation. Criminals will be deterred from the commission of crimes, under the hope of escape upon the "iron horse," for the mandate of justice, outrunning their flight, will greet their arrival at the first stopping-place.

The experiment of illuminating the streets of Paris with the electric spark, it is said have been quite successful.

The *culture of pumpkins on grass land*, is spoken of as a very advantageous mode. Holes were dug and filled with manure proper for vines, and the seeds planted. The vines did not begin to run till after the grass was mowed for hay. By the time the meadow was wanted for fall pasture, the squashes were ripe, taken from the vines and weighed. From two seeds planted, between six and seven hundred pounds of squashes were produced. It is computed that an acre planted by this mode, allowing about 90 hills to the acre, would produce about 18 tons of pumpkins or squashes.

DOWNING'S WORKS.

"THE FRUITS AND FRUIT TREES OF AMERICA."—This new work of Mr. DOWNING, which has been for some time in press, is announced to appear about the first of this month.

We are glad to see a second edition of his "Landscape Gardening," and "Cottage Residences," has been so soon called for. The first part of "Cottage Residences" has already appeared; and it is announced by the author that Part II. which is in preparation, will contain hints and designs for the *interiors* and furniture of cottages, as well as additional designs for farm buildings.

The second edition of the "Landscape Gardening" will be out in a few weeks, some delay having been caused by the number of very beautiful *new* illustrations introduced into this edition. A considerable portion of the work has been re-written, and many additions and improvements have been made by the author, to render it as complete as possible.

TRANSACTIONS OF THE NEW-YORK STATE AGRICULTURAL SOCIETY FOR 1843.

This volume is just published. It comprises 671 pages. Among the many interesting and valuable articles it contains, is a treatise on Insects injurious to field crops, orchards, gardens, and domestic animals, by the late WILLIS GAYLORD, Esq.—an article on the Diseases and Insects most injurious to the Wheat crop, by JOHN J. THOMAS—Report of experiments in cultivating various kinds of Wheat, by Gen. HARMON of Monroe county—the Geological Survey of New-York, in its influence on the agricultural and other industrial interests of the State, by PROFESSOR HALL, &c. &c. Taken altogether, it is a volume highly creditable to the Society from which it emanates.

"CLATER AND YOUATT'S CATTLE DOCTOR, *with numerous additions by* J. S. SKINNER, *assistant Post-Master-General, &c.* Lea & Blanchard, Philadelphia.

This is one of the best works of the kind that has ever been published, and we do not hesitate to recommend it to every farmer. By consulting its pages he will be able to manage his stock in all cases better than would be done by the ignorant cow-leeches to whom the treatment of the diseases of our domestic animals is generally entrusted. Attention to the diseases of domestic animals is a subject very much, nay, *criminally neglected* in this country. In the language of Mr. Skinner, in the preface to his work, "To say nothing of the duty which common humanity enjoins on every one, to be prepared with common medicines, and directions for the use of them, which may enable him to extend prompt relief to speechless suffering; on the sordid score of self-interest alone, the most calculating, it may be supposed, will not hesitate to provide himself with a book which in teaching him to be his 'own Cattle Doctor,' may enable him to save the life even of the meanest animal on the estate."

To the original work of Clater and Youatt, Mr. Skinner has made extensive additions, and among these is a valuable Essay on the use and management of Oxen, and an interesting paper on Sheep Husbandry; he has also increased the value of the work by numerous illustrations which are not contained in the English work. The vol. (250 p. 12 mo.) is got up in good style, and sold at the low price of 50 cents.

CUTTING WHEAT EARLY.

From our own experience, and from the experiments made by others, particularly the ably conducted ones of Mr. Hannam of England, of which an account has been given in a former volume of the Cultivator, we have been convinced that farmers much more frequently err by allowing their wheat to stand too long before cutting, than by harvesting too early. We have never known an instance where loss was sustained from early cutting, but there is not a year passes in which more or less loss is not suffered by standing too long. Cut early, the berry is whiter, the skin thinner, and the flour better. The following, which we find in the Michigan Farmer, wil add to the proofs already given in the Cultivator, tha our position is correct. It is part of a letter from Dr Eldridge:

"Amasa Andrews, Esq. of this town, harvested sixty acres of wheat last season, while it was so green and unripe, that every farmer in the neighborhood thought, and did not hesitate to declare him mad. He commenced cutting ten days before any other person thought of beginning, and finished before others had begun. The berry when cut was soft, and in that state known as "being in the milk." He has now threshed it; and being somewhat curious to learn the result of the experiment, I to-day went, in company with Mr. Andrews to the mill, and examined the wheat. I found it plump, with a peculiar transparency of the berry, I never before saw—which is to be attributed to the very thin coating of the bran. We weighed some and found it weighed just sixty-three lbs. to the measured bushel; and the experienced miller informed me, that it made *more flour* and *less bran* than any wheat he ever saw."

QUICK GERMINATION.

As a general rule, it will be found that a seed planted in such a manner as to ensure a quick germination, and a sufficient supply of nourishment afterwards, will give the most vigorous plants, and the most abundant returns to the cultivator. On this fact depends much of the benefit of manuring, and the difference also which results from the application of manures at different times. No seed requires to be buried deeper than is necessary to ensure moisture, and exclusion from light. If buried so deep that the nutritive matter of the seed is exhausted (and that alone forms the first and most important supply of food) before the shoot reaches the air, or the root the manure intended for its use, life may be continued, but in a state fatal to a good product. The experience of turnep growers, or those who sow small seeds to any extent will show the correctness of the above rules. If the manure is covered so deep that the roots must have a growth of weeks before they reach a proper supply of nourishment, the plants will be feeble, their growth slow, and a check will be given from which the plants rarely recover. If on the contrary the seeds are lightly covered and the manure fine and mixed with the earth in which the seeds are deposited, the growth will be rapid, and the impulse given at first is rarely lost in the growth of the plant. Bone manure has long been celebrated for the rapidity with which it brought forward crops to which it was applied. The fact that it was drilled in with the seeds, and therefore placed in contact with them, or in the position where its influence would be most sensibly felt in giving a rapid and vigorous germination, was for a while overlooked, and virtues were attributed to the substance, that in a great measure belonged to the method of using. The more thoroughly decomposed ordinary manure is, the quicker will its influence be felt on the young plant; and it is found that sown in drills with wheat or turneps, it is not inferior to bone dust in promoting a speedy and vigorous germination. The philosophical experiments of Davy showed that the most benefit would be derived from manures if used in a fresh or long state; and the decomposition of vegetable matters, or the preparation of compost was for a while abandoned, and the manure deposited as recommended by the philosopher. Experience soon showed, however, that while the soil was made better by the use of undecomposed materials, there were some crops to which the theory was not applicable; but that where a quick growth was indispensable, manure in the state that gives immediate nourishment was to be preferred. Thus in Great Britain the use of rotted or compost manure for turneps has again become almost universal; unless in those districts where good management has rendered the soil already so fertile and rich, that the immediate effect of the manure used is not required to the perfection of the crop sown. Farmers, therefore, in the preparation and use of their manures should be governed by the nature and condition of the soil to which it is to be applied; and the plant which it is intended to nourish.

FERMENTATION OF GRAIN.

We have received a communication signed "A. R. D.," asking for some information in regard to the fermentation of grain. He asks—"Will chemistry assist us here?" He then observes, "It seems that the heat is only one of the consequences resulting from chemical action, and is not absorbed *from* the atmosphere as many seem to suppose, because they have observed that it occurs mostly during hot weather. A high temperature is undoubtedly one of those circumstances, under which it goes forward most rapidly, because then the atmosphere will not take up the heat as fast as it is evolved, during the transformation. Under a low temperature the caloric escapes as fast as produced, and the fermentation stops, because one of the circumstances under which it will proceed, is wanting. But is it not going on even then, though but slowly?

"Liebig pronounces the whole process to be a species of combustion, and it is certainly very similar in its operation. In both cases, any substances undergoing combustion or fermentation, will cause other substances of the same nature to pass into the like condition, if brought in contact therewith. The same author tells us, that it is a common *error* to suppose that this operation goes on without any disturbing cause externally. But this must have been with the learned, for common people have thought it altogether produced by external causes, of which the hot weather was the most active. The above celebrated chemist declares that those substances which ferment most readily, remain unchanged as long as the cells or enclosing organs resist the action of the air. But as soon as the envelope gives way, and air is introduced, the juices absorb oxygen and the decomposition commences. First, we have the saccharine fermentation, second, the vinous, then the acetous, and lastly, the putrefactive. The first is necessary in the germination of seeds, and about the same temperature is required to sprout a seed in the earth, as will "heat" the contents of the granary. And thus we see why some farmers are subject to such grievous disappointments with respect to their seed. They thresh out their grain, store it, the saccharine fermentation takes place, and if sufficient moisture were present it would grow; but it is not, and thus the vital principle soon becomes extinct. And so we conclude that kiln-dried grain will not answer the purpose for seed, and that kiln-drying effects its object by expelling the moisture, so that one of the principal conditions of fermentation shall be wanting.

"Now here a question of great interest arises, as to the extent of the injury in each of the successive stages of fermentation, when the grain is intended for manufacturing purposes. If some practical man among your readers would give us the conclusions of his experience and observation, or institute some experiments in relation thereto, and communicate the results, he would perform a most acceptable service. Would the *grain* proceed farther than the first stage of fermentation at all? And would the quality of the flour be then materially injured? But when it is ground and barreled up, would not the vinous and the subsequent stages of transformation follow on, and so destroy the flour; for then that species of fermentation necessary to the preparation of bread would have been anticipated, and bread could not be made.

This disposition to "heat" or ferment, is also allowed to be greater or less in the various grains, according to the proportion of gluten or nitrogenous matter they contain. Can you not therefore, Mr. Editor, for our information, give us a list of analyses of our principal grains, wheat, corn, barley, buckwheat, &c., showing the gluten, starch, &c., of each in their several proportions, so that it can be seen which will be most exposed to fermentation, under the same circumstances of heat, moisture, and the other conditions. Might we not also, justly infer from the above fact, stated by Liebig, that the process would commence sooner in the state of flour, when the hulls and bran are removed, and proceed more rapidly than while it were yet enclosed in the envelope, and less facility given for the air to operate on the fermentative matters."

In conclusion it is asked, whether some cheap practical method could be devised for drying grain, so as to secure it against damage by fermentation? And whether it is supposed that a "few hundred bushels of grain, to the depth of 12 to 18 inches, spread on the floor of a small room, kept up to 100° Fahrenheit, by artificial heat, for several days in succession, would answer the purpose?"

EXPERIMENT IN FEEDING SHEEP.

J. W. Childers, M. P. in a late English publication, has given a detailed acconnt of an experiment made in feeding two lots of sheep, one in a small yard and out shed to protect them from the weather, and the other in the usual manner in the open field. As it is conclusive on the advantages of protection in feeding, we have abridged it for the Cultivator.

On the first of January, Mr. C. took from his flock 40 wether hogs (yearlings) Liecesters, and divided them into two lots, one weighing 183 stone, 3 lbs., and the other 184 stone, 4 lbs., and in other respects there was as little difference as possible. The first lot was put into the yard, the second into the field; and each lot had exactly the same quantity of food given them, which was as follows:

1st. As many turneps as they could eat, which was about 27 stone per day for each lot.

2d. Ten lbs. of linseed cake, or half a lb. per sheep per day.

3d. Half a pint of barley per sheep per day.

4th. A little hay, and a constant supply of salt.

For the first three weeks both lots consumed the same amount of food, but in the fourth week, the lot in the shed eat less by 3 stone of turneps per day, and in the ninth week they fell off 2 stone more. Of linseed cake, there was also a falling off of 3 lbs. per day. The lot in the field consumed the same from first to last.

The result of the experiment was as follows:

20 *Shed Wethers.*	*Increase.*	20 *Field Wethers.*	*Increase.*
Jan. 1st, 183 st. 3 lbs.		184 st. 4 lbs.	
Feb. 1st, 205 st. 0 lbs.	21 st. 11 lbs.	199 st. 8 lbs.	15 st. 4 lbs.
Mar. 1st, 215 st. 10 lbs.	10 st. 10 lbs.	208 st. 2 lbs.	8 st. 8 lbs.
Apr. 1st, 239 st. 9 lbs.	23 st. 13 lbs.	220 st. 12 lbs.	12 st. 10 lbs.
Total increase,	56 st. 6 lbs.		36 st. 8 lbs.

Thus the shed wethers, though consuming one-fifth less food, made above one-third greater progress; and the circumstances of the experiment were on the whole unfavorable to the winners, as the turneps being stored in a house for their use, were more wilted and dry, than those consumed in the field by the other lot. The shed floor was swept each day, and fresh straw given after each shower of rain."

AGRICULTURAL SOCIETIES.

Great Cattle Show at Worcester.—The Mass. Society for the Promotion of Agriculture, are to hold a State Cattle Show and Exhibition of Agricultural Implements at Worcester in October next. The trial of plows and other implements, is to be held on the 9th, and the show of stock, &c. on the 10th. The premiums are liberal, but we are sorry to see that those for stock are confined to such animals as shall have taken premiums from County Ag. Societies within the two previous years. Such a restriction in this State would prevent the exhibition of much of our best stock, and we should fear that it would have a similar effect, though in a less degree, in Massachusetts.

County Societies in New York.—The Rensselaer Co. Society hold their Fair for this year, at Troy, Oct. 2, 3.—The Chatauque Co. hold their's at Jamestown, Sept. 25, 26. Among the premiums to be awarded, we notice are 25 copies of the Cultivator and the same number of the New Genesee Farmer.—The Dutchess Co. Fair is to be held at Washington, Sept. 12, 13, the week previous to the State Fair at Poughkeepsie.

Bucks Co., Pa.—At the meeting of this Society on the 18th April, an Address was delivered by Joshua Dungan, Esq. an experienced and successful farmer, which is published in the county papers. It is scientific and practical, full of sound suggestions which can hardly fail to have a most beneficial influence.

Foreign Intelligence.

The Weather and Crops in England.—The latest accounts represent the weather as generally favorable, and the grain crops promising. In the Highlands of Scotland, the spring was backward, owing to the late continuance of the great quantities of snow which fell in February.

English Farming.—J. J. Mechi Esq. gives, in the English *Farmer's Herald*, an account of his *improvements* on a farm of 130 acres in Essex. The whole improvements, including over *eighty miles* of drains, amounted to the sum of $23,400! The 132 acres cost him $14,400, making the total investment amount to $37,800—or a fraction over $290 per acre, and yet he esteemed this a better investment than to place his funds in the public stocks.

Guano.—Within a short time, experiments have been made in England with guano found in the Hebrides, and other Scottish islands, and also with the same substance found on the coast of Africa. We have seen no statement showing the comparative value of the Scottish; but in the late English papers we notice the results of various analyses, from which it appears that Peruvian guano contains from 86 to 88 parts in 100 of available matter, and the African 76—or, compared one with the other, as 7 to 8. Comparing cost and value, when delivered in England, however, the African is said to be 23 per cent cheaper than the Peruvian. In England, guano is estimated five times stronger than night-soil, four times stronger than dove-cote manure, "a deadly enemy to the wire-worm and fly, and a preventive of mildew and red rust." We doubt whether experiments in this country have supported this high estimate of its value. Attention is now being directed to the islands in the gulf of St. Lawrence, the coasts of Labrador and Newfoundland, &c., for this substance.

Sawdust as Manure.—The Highland and Agricultural Society of Scotland has lately published a paper on the use of saw-dust as manure. It is highly recommended as litter for byres, cattle-sheds, pig-styes, &c., and answers well both for keeping the animals clean, and for absorbing the urine. We have often used saw-dust for this purpose, and can recommend it as one of the best articles to be had. We have also used, and seen it used, for ameliorating clayey and tenacious soils, with good effect. In some sections this substance may be obtained in abundance, and instead of being wasted as it generally is, it would be found, if used in the manner above mentioned, highly valuable.

Large Sheep.—Two sheep, said to be of the Devon breed, were lately killed at Exeter, (Eng.) one of which weighed 71½, and the other 73 pounds per quarter.

Short Horns.—An eminent stock-breeder from Belgium has lately purchased of Mr. Maynard, and others, near Darlington, fifty head of short-horn bulls and heifers. Nine Durham bulls were lately sold at the Veterinary School of Alfort, in France. The highest price paid was 3000 francs—(about $720,) and the lowest 1280 francs, (about $255.)

Pea-Straw.—At a lecture of the Rev. Mr. Sidney, at Acle, Norfolk, the Rev. gentleman drew attention to the waste of bean and pea-straw. It was cut too late. He gave the analysis of each as to nitrogen and gluten, which showed that 74 lbs of pea-straw, and probably of bean-straw also, equalled in nutriment 100 lbs. of common hay—a fact most important for farmers here, and well known in Scotland.

Linseed for Calves.—Boil 1 pint in a gallon of water; you need not soak it in water first. Give your calves from 1 pint to 1 quart of the jelly daily, according to their age. Give 1 pint to horses along with their chaff, &c. twice a day. It will not improve the milk, if given as food to cows.—*Gardener's Chronicle.*

Guano from the Islands of the North Sea.—Experiments are being made in England and Scotland, with the dung of sea-birds, procured from the islands to the north of Scotland. Its effects are not yet known. It can hardly be expected that it will be as powerful as the Guano from the Pacific, because it seldom rains where the latter is procured, and it might reasonably be supposed to possess more strength, than that which had been exposed to soaking rains. But it is yet thought doubtful whether Guano is really the dung of birds.

Stall Feeding.—Every one will admit the superior value of artificial grasses, who has made a fair trial of the difference between feeding cattle upon them cut green and given within doors, and on the other hand in turning cattle out upon a common pasture. A trial of this kind was once made in Scotland, and it was found that 27 head of cattle were as well kept upon the same quantity of ground in one method, as 18 in the other. Added to this, there is an immense saving in the making of manure, which process, the most important one of any, may be going on during the whole summer, instead of having what dung falls, scattered abroad, and dried up in the heat of the sun.—*Rawstorne's Remarks on Lancashire Farming.*

Manures are to farming what blood is to the animal frame; divested of their aid vegetation languishes, as the abstraction of the other leads to dissolution. Of all manures that are in use, commend your friends I pray you, to that from the farm-yard. Much goes to waste about every steading, that, being otherwise carefully used, with a trifling amount of labor might be made available in superseding the use of artificial or foreign manures.—*Ayr. Ag.*

Points of a Good Milch Cow.—The following is from a report of the Guernsey Agricultural Society. *Points.*—1. Purity of breed and qualities of the dam for yielding rich and yellow butter. 2. Small head, large and bright eyes, small muzzle, small ears, orange-color within. 3. Straight back from the shoulders to the tail, and chest wide. 4. A fine and loose skin, with soft and short hair. 5. Sides well rounded, flank small between the side and haunch, tail fine. 6. Fore legs straight and well proportioned, hind legs broad above the knee, fine and clean below; hoofs small; legs should not cross in walking. 7. Udder large, and the teats large and springing from the four corners of the udder; milk-vein large and well defined.

Cheese.—A return of the quantities of cheese imported into the several ports of Great Britain in each month of the year 1843, distinguishing the European, United States, and Colonial produce, has been printed on the motion of Mr. Colvile the member for Derbyshire. The aggregate importations from all parts during the year ending January 5, 1844, amounted to 179,389 cwt. From various countries in Europe, there were imported during the year, 136,898 cwt. From the United States of America (whence very rich fine flavored cheeses are now being constantly imported,) 48,312 cwt.; and from the British possessions abroad, only 79 cwt.—*English Farmer's Journal.*

CULTURE OF MILLET.

June is a good time to sow millet. It will do well sown any time in the month. It makes, when well cured, excellent fodder. One of the general advantages of this crop, is, that if the hay-crop is likely to come in light, this may be grown as a substitute. Half a bushel of seed, broadcast to the acre, is a proper quantity, though only a peck is sometimes sown on rich ground. It may, if desired, be sown in drills, and if designed for seed, this is the best way. A common turnep-drill will sow the seed well. It will yield bountifully, and the seed, when ground into meal, is excellent for fattening animals. Rather light ground is best for it—it will indeed do well on land that is too light for grass. In 1841, Mr. G. Jones received a premium from the Tompkins County Agricultural Society, for having raised on two acres, five and a half tons of millet-fodder, and sixty-three bushels of seed. It was new land—the wood and timber from which was taken off in the month of April, and twenty quarts of seed sown to the acre the 8th of June succeeding.

MR. PELL'S FARMING.

We give the following letter from Mr. **Pell**, with pleasure, and shall be glad to receive the results of the experiments, spoken of in his private note as now in progress, for publication. Notwithstanding the favorable results which Mr. P. thinks he obtained from the use of one bushel of clover seed to the acre, and a bushel of salt to a ton of hay, we cannot but think that a reduction of at least one half these quantities might have been made without a decrease in the product of hay in the one case, and with a decided benefit to his cattle in the other. To compel animals to eat a larger portion of salt than nature requires, cannot but be injurious. While we by no means question the statements of Mr. P. in relation to his experiments, we cannot doubt but that there must have been other favorable circumstances concurring, aside from the use of charcoal, to produce the extraordinary yield of wheat alluded to.

Luther Tucker, Esq.—In overlooking the May number of the Cultivator this morning, I was surprised to find several communications had been sent you for publication by different individuals, questioning the utility of a few experiments I had tried, found advantageous, and made public, solely that others might be benefitted. "Long Island" attributes my success in wheat culture to the use of lime, and says, "Let the experiment of lime and charcoal be made side by side, and given to the world."

I would refer "Long Island" to an article of mine published in the December number of the Cultivator, page 197. The land which produced at the rate of $78\frac{3}{4}$ bushels of wheat to the acre, was manured with pulverized charcoal dust, lime not being used in that experiment. By analysis the soil contained gypsum and a little common salt, soluble in water—a very little phosphate of lime, carbonate of lime, and silicate of potash, soluble in muriatic acid. So that further than what was naturally in the soil, no addition of lime was made. This spring on the 23d of April a head of clover fully developed, was plucked near the same piece. Near it, I limed four acres, at the rate of 200 bushels of oyster shell lime to the acre, and the yield was not 25 bushels per acre.

Next in order, page 153, I find Mr. J. Johnston of Geneva, has taken up his "pen to show" that my "opinions are wrong," and some of my "practices are actually cruel." I have pursued the same mode for two years, sowing half a bushel of timothy seed, and one bushel of clover seed to the acre; likewise have cut my grass, housed it on the same day, and salted it with one bushel of fine salt to the ton. In the winters of '43 and '44, I fed 12 head of cattle and three horses on hay so cured, and I flatter myself they would be considered creditable to any farmer, by either Mr. Johnston or Mr. Curtis.

I have within the last two years, tried Mr. Johnston's method of sowing five pounds of clover seed on a small gore of land, and contiguous to it one bushel. From the latter I cut three tons, and from the former one ton of hay to the acre—measured when cured. Mr. Johnston "thinks I am one of those farmers that tell men to do so and so, but who neither helps to do it, nor sees that it is done." I will confess that I do not often help to do the work, but generally see that it is well done.

Page 161, I find a letter signed Daniel S. Curtis, who says, speaking of himself—"My practice is to cure my hay *properly*, and put 2 quarts of fine salt to a ton, taking care to have the lumps well pulverized. Curing hay in the cock is the *only right way*." Mr. Curtis further says—"Ten dollars worth of grass seed to the acre, would look large to farmers that do not usually sow over two." Where I sowed by the old rule 5 pounds to the acre as before mentioned, I cut one ton of hay, worth in this vicinity $12, and in the other instance from a bushel sown, timothy included in both cases, the yield was three tons, worth $36.

In my communication I did not say my plan was the only way, but merely mentioned the fact that others might receive advantage from it, not supposing for a moment that farmers who had never sown more than 5 lbs. to the acre would condemn an experiment before they had tried it themselves.

Mr. Curtis speaks disparagingly of straw, chaff and refuse hay as compost, and as if I strongly recommended it. If he will take the trouble to refer to my letter dated Jan. 21st, '44, on seeding grass lands, &c., he will find I merely say it is supposed by chemists, that the plan of keeping a large stock of horned cattle for the express purpose of manuring a farm, is an erroneous one, on account of the various substances taken from the food to support the animal economy, and ask the simple question,—If, instead of keeping stock for that purpose, the farmer should convert his straw, chaff and refuse hay, into manure in a compost heap, he would not save without the least loss every requisite for the ensuing crop? It is well known that in Virginia and other parts of the country, a great number of cattle are kept expressly for that purpose. Mr. Curtis surmises if I have fed any length of time on hay cured as aforementioned, and not lost my stock, "they must be of a different temperature from his neighbor's cow." I imagine they are of the same temperament and habits as his neighbor's stock, and assure him that for two years their chief food has been hay so preserved, which they have always eaten with apparent satisfaction, and my man says he has never observed that they ever drank an unusual quantum of water. As to quantity of hay cured on my place, year before last and last year I cut the grass from fifty acres, and cured it as aforesaid, and intend intend to continue the same plan, being satisfied that I derive great advantage from it. My cattle are still "punished by the cruel practice," as I pursue the English mode of soiling, and do not permit them to change their fodder, until corn and rye sown broad cast, is fit to cut in turn with clover, to afford a change of diet. I am very respectfully yours, **R. L. Pell.**

Pelham, Ulster Co., May 17, 1844.

FARM LANDS OF PENNSYLVANIA.

A Pennsylvania correspondent, Mr. P. Peterson, who dates, "Four miles East of Pittsburg," says:

"I will take the liberty of recommending to the Orange County farmers, and to any others, the western part of the State of Pennsylvania, it fitting the very objects which they desire.

1st. The land is cheap and good.

2d. The climate is remarkably healthy.

3d. It is a desirable part of the country.

4th. Schools both private and public are as plenty as bad farmers.

5th. There are churches of every denomination and for 100 miles square will number with any other part of the union.

6th. Farming implements, cows, horses, hogs, oxen, wagons and furniture can be had cheaper than any other place within my knowledge. If you don't believe me, come and see for yourselves.

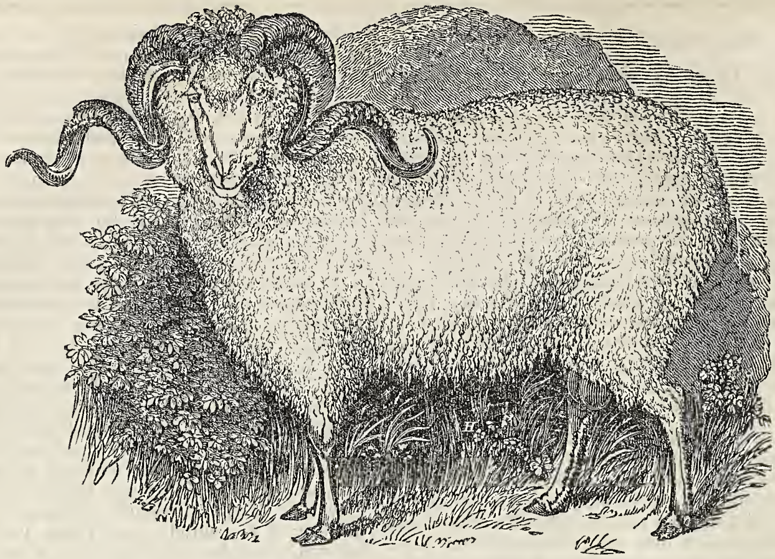
The land in this section of the country is generally improved, and in consequence of the reverse of times, many farmers and other persons owning lands have become involved, which obliges them in many cases to sell their improved farms, and seek for others further west unimproved and at less prices.

In Washington county, Penn., (which joins lines with the state of Virginia,) the land is of an excellent quality, and generally limestone land, abounding with coal. The price will vary from fifteen to forty dollars per acre, according to the improvements and situation.

In Fayette county the land is generally good, of a black mould and abounds with coal. The price will vary from ten to thirty dollars; building not so good as Washington co. In Westmoreland co. the land is good, but varies very much in quality. Price, $10 to $25.

In Alleghany county, south and west of the Alleghany river, the land is rolling and of a good quality, coal in abundance, and some lime stone. Price varies very much, owing to the necessity of the seller; for a good farm improved, say $20 to $30 per acre. On the north side of the Alleghany river the land is not so good. Can be had for from $3 to $20 per acre, according to the improvements.

In Beaver county the land is rolling, good, and can be had at moderate prices. From $12 to $15 per acre for a pretty good farm, common buildings."



SAXON RAM—(*Copied from Youatt.*)

SHEEP HUSBANDRY.

At the fifth Agricultural Meeting, held in this city, the subject of sheep husbandry was under discussion. We give, from our notes, the remarks of Dr. **Beekman** of Columbia county, President of the State Ag. Socity.

Dr. **Beekman**, in reply to the call made upon him by Mr. Nott, proceeded to give his views on sheep husbandry—views deduced from his management of considerable flocks, in connection with other farming, for a series of years. In giving his views on those subjects, said the President, the last speaker commenced by observing that in some things he might be pronounced heterodox; but he has given us a clear and succinct history of his practice, and in most of his remarks I thought him orthodox. His heterodoxy, if I may apply that term to a difference in practice on these matters, may, in my opinion, be found in two or three points. First, he turns his sheep into woody pastures—I mine into open ones; because I had learned that one blade of grass grown in the sun has the nutrition in it of five grown in the shade. Second, he keeps his buck with the sheep during the entire year—I mine only during the month of December; because my experience has taught me that lambs coming in May give the least trouble, and to me are the most profitable. I have endeavored to obtain them at an earlier season; but although I have tried warm sheds and succulent food, success has not induced me to repeat the effort—on the contrary, the practice has been attended with unnecessary expense, and some losses in lambs. But the qualities of our sheep, and of course their constitutions, are different; his are the South-down, which are hardy—mine the Saxon, which are of more tender constitutions. Third, he shears his sheep early—I mine late. And, while on the subject of shearing, permit me to say that is of great importance to the farmer to employ none but the best shearers; for if he does, they will leave twice as much wool on the sheep as will pay for the shearing. I have made several experiments towards ascertaining this fact—both in having some of my own re-sheared, and causing others to do it; and in several instances they have been enabled to obtain, at a second shearing, from four to eight ounces of additional wool.

My sheep, (said Mr. B.,) while running in the pastures in summer, are sorted as to size, sex and condition. I find it an advantage for them to be uniform in all these, and to have the flocks as small as is consistent with their number and the size of the yards and farm. Our farmers will find it much to their profit to keep as many sheep without crowding as their farms can well support. Even the grain farms are much benefitted by this practice, and experience has taught that by this practice they can raise more grain in consequence, as sheep manure is of great service in enriching their farms. This truth has been strikingly illustrated in my neighborhood, where a farmer who was slow to adopt this practice, ultimately became aware of its correctness, and a test of ten years' experience has taught him that upon the same tract of land in that time he has nearly doubled his product, as he has certainly his estate. On a grain farm tolerably adapted to grass, it is perfectly easy to keep one sheep per acre; and upon what is called a grass farm, where the raising of grain is a secondary object, two sheep can be kept per acre. When shelter is provided for them in winter, which ought always to be the case, I find that one hundred sheep, if they are moderately littered, will make forty loads of manure. No quality of it can be finer; and a poor, worn-out clay pasture lot, not too profusely covered with it and summer fallowed, will give, the succeeding season, a good crop of wheat. I find if I put on too much of this kind of manure to the acre, it yields too much straw in proportion to the grain. It is likewise most excellent to renovate old meadows, and as a manure ranks much higher than common barn-yard. The summer run of sheep, likewise, is essentially beneficial to a succeeding crop of grain on a fallow; and no farmer who has in view his own profit and the improvement of his farm, can so easily effect his purpose with any other kind of stock. I have already recommended sheep to be sheltered in winter. I must say that it is not only useful against storms, but against cold and the winds. To guard effectually against these, as soon as the snow falls, I have it thrown up and piled against the side ot the hovels, as high as it can easily be done, as I find it renders the shed much warmer. For sheep in poor condition, warmth in winter is essential; and if they can be entirely sheltered from all the winds, it will prevent much mortality among them. Fat sheep do not feel the cold so sensibly, but all will run for shelter in a storm, if it can be obtained. Another subject as regards sheep husbandry I will touch upon, and that is, watering them in winter when fed on hay. An opinion used formerly to prevail, that sheep did not require to be watered in the winter—that if they could get at snow it would be sufficient. This, I am satisfied by the best of all possible authorities (experience,) is wrong. They require it twice a day, as regularly as any other animal. I will relate this fact. I confined about one hundred wethers in a lot, where they were to be kept for the winter; they had shelter and hay for food, but could not obtain water, except as it fell in rains. I noticed, after being so confined a few weeks, that they lessened in flesh. In a week's time more I again visited them, and saw that they were gradually growing thinner. I ordered a better quality of hay, although the first was at least of ordinary quality. I spoke to my shepherd about it, and he took from the flock a few of the poorest, and had them brought to the barn, where they could be both fed and watered; these gave him no more trouble, but it still did not occur to me that the main flock were suffering from want of water, as there was abundance of snow. Another person, who saw them shortly after this, happened to make the suggestion that it might be want of water that was the cause of the mischief. I at once took up the thought, and directed that an opening be made to the brook, whence they could be daily watered. It was so done, and I could in a few weeks' time observe that the flock had improved, and for that winter I had no more trouble with them. Since then I have had the fact repeatedly brought to my notice by others, and no truth can ever be more satisfactorily established. I make these few remarks in relation to a part of my practice in sheep husbandry. It is a subject sufficiently extensive to admit much more being said upon it; but, for the present, I forbear, as I do not wish to occupy too much time. I will only further say, that there is a common remark when a foolish act is done by an individual, that he is as "silly as a sheep." My observation of the habits of sheep has induced me to believe that they have powers beyond instinct, and have more intelligence than they are usually credited with. Dr. B. continued his remarks on several other points, and explained satisfactorily his process of farming for the improvement of his lands, while thus rearing a flock which now amounts to eight hundred sheep.

WHEAT CULTURE IN THE SOUTHERN COUNTIES.

At the third Ag. Meeting held in this city, under the auspices of the State Ag. Society, Dr. Lee, of Erie Co., said:

Mr. President: The question for investigation this evening, I believe to be this: "Is it practicable, and if so, will it be profitable, to grow wheat south of the limestone strata that extend west to lake Erie, through the central portion of this State ?"

The soil in the region alluded to, is based on shale and free-stone rocks, and lacking lime, its sulphates and phosphates, it is but poorly adapted to wheat culture.

Practically then, the question to be solved is this: How much lime, sulphur and phosphorus must be added to the shale and free-stone soils in the southern tier of counties, to make them good wheat lands, and what will be the expense per acre ?

If we take 100 lbs. of ripe wheat, including root, stem and head, and burn it in the open air, about 97 per cent of its weight will be converted into vapor and gas, and escape into the atmosphere. The ash, or 3 per cent left, will, on analysis, show the earthy elements necessary to produce this grain. Liebig and Johnston both quote the following analysis, made by Sprengel, as entitled to confidence:

	Wheat Ash.
Potash,	0.6
Soda,	0.8
Lime,	6.8
Magnesia,	0.9
Silica (flint,)	81.6
Alumina, and oxide of iron,	2.6
Phosphoric acid,	4.8
Sulphuric "	1.0
Chlorine,	0.9—100.00

When it is recollected that there is never more than three or four per cent of the above earthy substances in wheat, and that silica (sand) composes 81.6 per cent of even that small portion, it will not I trust, be deemed incredible, if I express the opinion that by the aid of a little practical science, good wheat may be grown profitably in any county in the state.

This plant has been raised in a great variety of artificial soils, where each ingredient was carefully weighed, both before and after the plant was taken from the earth. By careful analysis, what the soil had lost, and what the plant had gained, was susceptible of demonstration. A very large portion of the elements of all cultivated plants comes from the atmosphere. The precise amount depending alike on the composition of the soil and the nature of the particular plant upon which the experiment was made.

I regard it as a fact of great practical importance that wood ashes, even leached ashes, so abundant in the southern tier of counties, contain all the earthy elements of this invaluable bread-bearing plant. Compare the following table, showing the constituents of beech ash, with that of wheat ash. This is also taken from Sprengel:

	Beech Ash.
Silica (sand,)	5.52
Alumina (basis of clay,)	2.33
Oxide of iron,	3.77
" manganese,	3.85
Lime,	25.00
Potash,	22.11
Soda,	3.32
Sulphuric acid,	7.65
Phosphoric "	5.62
Chlorine,	1.84
Carbonic acid,	14.00—100.00

Maple, birch and other wood, contain the same minerals.

Note the 25 per cent of lime in the above analysis, being larger than that of potash. Our primitive forests have been for centuries drawing the above earthy constituents of wheat from the soil. And instead of carefully preserving this indispensable *raw material* of good wheaten bread, thousands of bushels of leached ashes have been thrown away! Being but slowly decomposed by the vital action of plants, ashes are an enduring fertilizer when compared with stable manure. Mixed with quick lime, their good effects are more speedily obtained. Lime will render alumina either in the soil or in leached ashes, soluble in water, so that it can enter the minute pores of roots. Clay in the soil is always combined with a large portion of silica, and before it has been exhausted by continuous cropping, it holds in combination considerable potash and soda. Lime, by combining with alumina, the basis of clay, liberates these alkalies and silica, which uniting chemically, form soluble silicates of potash and soda. These also enter into the circulating nourishment of plants, and are decomposed in the stems of grasses and cereals. The silica goes to make vegetable bone, to keep the plant upright, while the potash and soda go back to the earth to dissolve as before, another portion of *sand*, to be also absorbed, and transformed into *bone*. It is in this way that a few ashes applied to a sandy soil, will enable grass and grain to take up the 81 per cent of flint found in their ashes. Lime will do the same thing on clay soils, for the simple reason that they generally do not lack potash, soda and magnesia.

The quantity of lime and ashes to be applied to an acre, will depend entirely on their cost at the place where they are to be used. A few bushels will be of essential service; but a larger dose will be better.

I come now to speak of the organic elements of the wheat plant, which as I have already intimated, form ninety-six or seven per cent of its substance. Water and its constituents, oxygen and hydrogen, carbon and nitrogen, are the four elementary ingredients of all cultivated plants, beside their minerals. As there is no lack of water or of its elements, oxygen and hydrogen, our attention will be confined to obtaining a full supply of carbon and nitrogen. These are indispensable, and fortunately nature has provided an amount of carbon and nitrogen in the air, if not in the soil, more than equal to all the wants of vegetation. A large portion of the fertilizing elements of vegetable mold in a rich soil is carbon, and a small portion is nitrogen; both of which are usually combined with other substances. These important elements are often nearly exhausted in fields which have been unwisely cultivated; and I have paid much attention to the subject of cheap and practicable renovation.

By the aid of clover and buckwheat dressed with gypsum, ashes, lime or manure, and plowed in when in blossom, much can be done in the way of augmenting the rich vegetable mold so desirable to a certain degree in all soils. Straw, corn-stalks, leaves of forest trees, and swamp-muck made into compost with lime and ashes, are of great value. Charcoal well pulverized, and saturated with urine, I regard as the cheapest and most useful fertilizer that can be applied to a poor soil, for the production of wheat or almost any other crop.

The earths contained in charcoal, as the analysis of its ash demonstrates, are identical with the earths found in the wheat plant. Coal contains a very large portion of carbon, and will imbibe from the atmosphere a large quantity of nitrogen in the form of ammonia and its carbonates. Unlike stable manure, the salts of lime, potash, soda and magnesia, it will not waste by premature solution nor by evaporation. On the contrary, it is of incalculable value to mix with the liquid and solid excretions of all animals, to absorb and fix in a tangible condition those volatile, fertilizing elements, which are so prone to escape beyond our reach.

When it is recollected that without nitrogen in some form, it is utterly impossible to grow one kernel of good wheat, and that a pint of human urine or four quarts of that of the cow, or one quart of that of the horse fed on grain, contain nitrogen enough to supply 60 lbs. of wheat, we may begin to understand something of the money value of this animal product. But mind this suggestion. Nothing is sooner lost than the hartshorn in an open smelling-bottle, or a large share of the ammonia in free urine in a warm atmosphere. Charcoal and gypsum will absorb it in large quantities, and give it out to the roots of plants as their wants require. In feeding plants, great judgment should be exercised. At least one-half of the food fed out to them in the shape of stable and barn-yard manure, is entirely lost. It escapes into the air, or is dissolved prematurely, and carried like the potash in water running through a leach, beyond the reach of your hungry if not starving plants.

I have just separated a half pound of wheat flour into its proximate elements of starch and gluten. The gluten I have in my hand. It is nearly identical with animal muscle. It forms from 7 to 35 per cent of the bulk of wheat kernels. The more gluten flour contains, the more good bread a given number of pounds will make. A barrel of flour rich in gluten, will make 10 per cent more of bread than one which is nearly all starch. Gluten will bear far more water than starch. The quantity of this meat-forming principle in wheat, depends in a good degree on the quantity of nitrogen in the soil where the wheat is grown.

Prof. Emmons made some interesting experiments, illustrative of soils. He also exhibited some beautiful specimens of the separation of starch and gluten in kernels of wheat and corn; and also of the phosphates in the latter grain.

FARMING IN NOVA SCOTIA.

To Solon Robinson—Sir—I have just finished reading your letter in the March number of the Cultivator; and although it is addressed to your friend Richmond, of Staten Island, I have perused it with much interest and pleasure, and the impulse is so strong that I cannot resist writing a few lines to you, through the same medium.

No doubt you have heard of a place upon the face of the earth, called Nova Scotia, "away down east, beyond the State of Maine," in lat. 44 north, long. 63, west from Greenwich. Well sir, the person who now addresses you, lives (some would say, stays,) in said Province, and is a farmer too. What! a Southerner would exclaim, farm it in Nova Scotia? Yes, sir, we farm it here, or rather attempt it; but since I became familiar with agricultural journals, especially the Albany Cultivator, and perused the communications of practical farmers, I find we are in the "rear" of agricultural science and information; of course there are exceptions.

It would be impossible in a letter, to be published in an agricultural journal, to go into the details of our system of farming. Suffice it to say, our winters are long, and sometimes very severe; our summers are short and warm; and the only recompense the farmer has for the above disadvantages of climate, is a long and favorable autumn, for fall plowing, making compost heaps, &c. as yet too generally neglected.

Our soil is very productive, when properly managed, and consists of stiff loam, sandy loam, sand and gravel, with intermediate grades; besides intervale and dyked marsh; the former (intervale) resembling perhaps, your prairie ground; the latter (dyke) superior, I suppose, to any land yet discovered; for it will produce hay, wheat and oats in abundance, year after year, without manure, or any renovating substance whatever, or at least it has done so for nearly one hundred years, and I think it is as fruitful as ever. There are large quantities of it in the midland and farming counties, and after the expense of excluding the tide or sea—in some instances a heavy expense—it sells from forty to one hundred and thirty dollars per acre; and at the higher rate will pay not less than ten per cent interest on the amount invested. The upland can be procured at from one to eighty dollars, depending upon their location, wild or cultivated state. Our houses are built of wood, and are from one to two stories, neat, and generally comfortable; although we have plenty of stone and material for making brick. The extent of the farms varies from 100 to 500 acres.

The principal crops are potatoes, (every body knows Nova Scotia potatoes to be good,) wheat, rye, oats, hay, &c.; garden vegetables are grown, but at present, limited to a few. We have fruits, consisting of apples, both native and imported varieties, (and I have just been eating some raised in my orchard, as sound as the day they were pulled, and if Millerism be not true, I expect to have them in August,) pears, peaches, (I have eaten as good ones from the garden of the Hon. C. Prescott, Cornwallis, as ever I eat in New-Jersey,) plums, cherries, &c.; so you see, although I live in Nova Scotia, I can with knowledge and industry, enjoy good vegetables and fruits, &c. &c.

Our native cattle are inferior, but they have been improved from time to time, and are now undergoing a great improvement by the importation of the Durham breed from England, also horses, as well as swine. We have now the Berkshire breed among us, pure and direct from England. You will observe we are not destitute of the materials for a good and profitable system of farming, provided science, skill and good management, had their legitimate and proper influence among us. Better things, I trust are in store for the future—and possessed of a government both mild and potent, and free from all taxation except to support the poor, &c., amounting per annum to not over 25 cts. upon every $400 worth of property. A few such men as Garnett, Buel, Dana, Robinson, and others, would in a few years make of the midland counties of Nova Scotia a garden. For the last ten years we have been rent to pieces by political demagogues, but as the old saying is, "every dog has his day," their plans of self-aggrandizement have been frustrated by the nobleman at the head of our affairs, and they are now meeting their just reward, viz. degradation.

Within a few years, the "emigration Illinois Fever" has prevailed, and a number of families have sold their farms and left Kings county, (the very best agricultural county in Nova Scotia,) for your State, and others adjoining—hoping "to obtain their daily bread by less sweat of their brows." I have always had my doubts whether they would better their condition (especially those at the middle age of life and in good circumstances) by moving thither. From the tenor of your letter, I should say they would not. I should like to have some further statements from you through the medium of the Cultivator *or otherwise*, relative to the cost of land, amount of all land and other taxes, amount of grain, potatoes, oats, rye, &c. raised per acre, profits per acre of different crops, *durability of the prairie grounds for cultivation*, state of morals, religion, schools &c.—price of salt, iron and such like articles. Hoping you will excuse the liberty of thus addressing you, believe me to be,

Yours respectfully, Old Nova.

Kings county, Nova Scotia, April 1, 1844.

No man can *borrow* himself out of debt; if he gets free of it at all, *honorably*, it must be by industry and frugality.

PHOSPHATE OF LIME.

To the late Geologists of the State of New-York:

The subscriber read the Geological Reports as they appeared annually, and was astonished, and at the same time delighted, with the mass of information they contained. The mineral riches of the State, and the heretofore concealed treasures brought to light by your researches, are great beyond measure. They give promise of future benefit to the country, the development of our resources, and the increase of commerce, the arts and agriculture. The subscriber being a cultivator of the soil, is only interested in the latter, which he thinks may be assisted and improved by your labors. The knowledge of these, however, must be known to be appreciated, and the volumes containing the result of your researches, should be diffused through the community that has contributed to the expense. If the Legislature should dispose of the volumes of printed reports by selling or giving them away, the valuable mass of information they contain, would be sooner spread before the public, and the sooner would that public reap the advantages to be derived from your scientific labors. I am departing however, from the object in view in commencing this article.

In reading your reports (which are not now at hand,) I recollect it is noticed that in several counties of this State, Apatite, Phosphorite or the Phosphate of lime was discovered in more than one district, but the quantity or accessibility is not stated. Late agricultural writers speak of the value and importance of the phosphates as fertilizers of an exhausted soil. Now I would respectfully inquire if those phosphates you discovered were in any considerable quantity, and if they were so accessible as to be easily obtained for agricultural purposes? My reasons for making this request, will be seen in reading the following extracts from Liebig's "Familiar Letters on Chemistry," &c. lately published in New-York city.

In the 16th letter he observes—"My recent researches into the constituent ingredients of our cultivated fields, have led me to the conclusion that of all the elements furnished to plants by the soil and ministering to their nourishment, the phosphate of lime, or rather the phosphates generally, must be regarded as the most important."

"In order to furnish you with a clear idea of the importance of the phosphates, it may be sufficient to remind you of the fact, that the blood of man and animals, beside common salt, always contains alkaline and earthy phosphates. If we burn blood and examine the ashes which remain, we find certain parts of them soluble in water, and others insoluble. The soluble parts are common salt and alkaline phosphates; the insoluble consist of phosphate of lime, phosphate of magnesia, and oxide of iron."—p. 173.

Again he says: "It is a most curious fact, that if we incinerate grain or its flour, peas, beans and lentils, we obtain ashes, which are distinguished from the ashes of all other parts of vegetables by the absence of *alkaline carbonates*. The ashes of these seeds, when recently prepared, do not effervesce with acids; their soluble ingredients consist solely of alkaline phosphates, the insoluble parts of phosphate of lime, phosphate of magnesia and oxide of iron; consequently, of the very same salts which are contained in blood, and which are absolutely indispensible to its formation. We are thus brought to the further indisputable conclusion that no seed suitable to become food for man and animals can be formed in any plant without the presence and co-operation of the phosphates. A field in which phosphate of lime or the alkaline phosphates form no part of the soil, is totally incapable of producing grain, peas or beans."—p. 174.

"In a former letter I showed you how great a waste of phosphates is unavoidable in England, and referred to the well known fact that the importation of bones restored in a most admirable manner the fertility of the fields exhausted from this cause."

"Another proof of the efficacy of the phosphates in restoring fertility to exhausted land, is afforded by the use of the *guano*—a manure, which, although of recent introduction into England, has found such general and extensive application."—p. 176.

Liebig further advises us that "If a rich and cheap source of phosphate of lime and the alkaline phosphates were open to England, there can be no question that the importation of foreign grain might be altogether dispensed with after a short time."—p. 177.

The value of the phosphates is also acknowledged by Johnston in his "Lectures on Agricultural Chemistry and Geology." In the first volume of the edition lately published in New-York by Wiley & Putnam, when speaking of phosphoric acid, he says, (p. 274,) "It unites however, with potash, soda, lime, &c. to form compounds known by the name of *phosphates*. In these states of combination, it is almost universally diffused throughout nature, and appears to be essentially necessary to the healthy growth and maturity of all living—certainly of all cultivated vegetables."

Again, when speaking of the earth of bones, and the several forms of the phosphate of lime, he observes (p. 293, vol. 1,) that "In some parts of the world a hard mineral substance, commonly known by the name of Apatite, occurs in considerable quantity. It consists chiefly of a phosphate of lime, which differs but slightly in its constitution, from the earth of bones—containing 54½ per cent of lime; while the latter contains only 51½ per cent. The composition of this mineral would lead us to expect it to possess a favorable action upon vegetation, and this anticipation has been confirmed by some experiments made with it by Sprengel."

"It occurs occasionally in mineral veins, especially such as are found in the granitic and slate rocks. Masses of it are met with in Cumberland, in Cornwall, in Finland, in the iron mines of Arendahl in Norway, and in many other localities. A variety of it, distinguished by the name of *phosphorite*, is said to form beds at Schlackenwalde in Bohemia, and in the province of Estremadura in Spain. From the last of these localities being the most accessible, the time may come when the high price of bones may induce our enterprising merchants to import it, for the purpose of being employed in a finely powdered state as a fertilizer of the land."—(Lect. 9th.)

The first American edition of Johnston contained but nine lectures, and was published in New-York while they were in the progress of delivery. This second edition contains eighteen lectures, and in the fifteenth, when speaking of bone earth, (vol. 2, p. 71,) it is observed, "Burned bones were formerly employed in England, but the practice has gradually fallen into disuse, and the same is the case in Germany. This is no proof, however, that the native phosphate of Estremadura—already, it is said, imported into Ireland for agricultural purposes—would not benefit many soils if applied in the state of a sufficiently fine powder."

These opinions and facts are laid before the readers of the Cultivator, and will demonstrate in this instance how agriculture may be advanced by the sciences of geology and mineralogy; and the late geologists are respectfully requested to collect from their several reports, and give a summary of the localities of the phosphate of lime and their quantities, &c. to be published in the Cultivator. The subscriber, as one of the tax-payers of the State, is pleased and well satisfied with their labors, tenders them his thanks and best wishes for their welfare.

He could not but smile at the scruples of his old friend Judge Scott of New-York, one of the State Senators, in returning to the care of the Secretary of State, a copy of the Geological Reports, which was appropriated to him as a member of the Legislature. The plunder of the public (a portion of the "spoils" of victory,) was so small in this case, that if he had retained it, given it to some public institution, or deposited it in some library, where it could be read; in neither case would it have diminished his vote at the next election, should he again be a candidate, and certainly it would not have changed the vote of his former associate in a benevolent institution.

A Practical Farmer

Staten Island, March 25, 1844.

Mr. J. R. Barbour, a great silk authority, says that the valley of the Ohio has gone ahead of New England in the production of raw silk. He thinks that the West and South will take the lead in the growth of silk.

THE OLIVE.

MESSRS. EDITORS—Dr. Olin, describing the soil and productions of Palestine, speaks thus of the olive:

"But this is the proper region for the olive and the vine. Anciently, these hills were covered with orchards of fruit trees and vineyards, and the world does not, probably, produce finer grapes, figs and olives, than are annually gathered about Hebron and Bethlehem. One acre of the flinty surface of the Mount of Olives, carefully tended in olive trees, would yield more, through the exchanges of commerce, towards human subsistence, than a much larger tract of the richest Ohio bottom tilled in corn. Most persons know little of the variety and importance of the uses to which the fruit of the olive is applied in the Eastern nations and in some of the southern countries of Europe. Large quantities of the berries are used by the inhabitants, and exported as food; but the principal value of the olive consists in the delicious oil that is extracted from its fruit. This is used upon the table and in cookery, as the substitute for both butter and lard. It is universally burned in lamps, and instead of candles, which are nearly unknown in the east. It is the principal material used in making soap."—*Olin's Travels, Vol. II. p.* 430.

Mr. Jefferson, in 1787, wrote as follows:

"The olive is a tree the least known in America, and yet the most worthy of being known. Of all the gifts of Heaven to man, it is next to the most precious, if it be not the most precious. Perhaps it may claim a preference even to bread, because there is such an infinitude of vegetables which it renders a proper and comfortable nourishment. In passing the Alps, at the Col de Tende, where there are mere masses of rock, wherever there happens to be a little soil, there are a number of olive trees, and a village supported by them. Take away these trees, and the same ground in corn, would not support a single family. A pound of oil, which can be bought for three or four pence sterling, is equivalent to many pounds of flesh, by the quantity of vegetables it will prepare and render fit and comfortable food. Without this tree, the country of Provence and the territory of Genoa would not support one-half, perhaps not one-third, their present inhabitants. The nature of the soil is of little consequence, if it be dry."

"In Italy, I am told, they have trees of two hundred years old. They afford an easy and constant employment through the year, and require so little nourishment, that if the soil be fit for any other production, it may be cultivated among the olive trees without injuring them."

"Notwithstanding the great quantities of oil made in France, they have not enough for their own consumption, and therefore import from other countries. This is an article, the consumption of which will always keep pace with its production. Raise it, and it begets its own demand. Cover the southern states with it, and every man will become a consumer of oil, within whose reach it can be brought, in point of price. If the memory of those persons is held in great respect in South Carolina, who introduced there the culture of rice, a plant which sows life and death with almost equal hand, what obligations would be due to him who should introduce the olive tree, and set the example of its culture!"—*Mr. Jefferson's letter to Thomas Drayton, dated Paris, July* 30, 1787.

"I am persuaded there are many parts of our lower country where the olive tree might be raised, which is assuredly the richest gift of Heaven. I can scarcely except bread. I see this tree supporting thousands among the Alps, where there is not soil enough to make bread for a single family."—*Mr. Jefferson's letter to Mr. Wythe, dated Paris, Sept.* 16, 1787.

Here is surely ample testimony as to the estimation in which the olive was held in modern times, by those acquainted with its uses. If evidence is wanting as to the estimation in which the ancients held it, we have only to refer to the frequent mention made of it in the historical parts of the Bible, and the beautiful allusions to it so frequent by the Hebrew poets—to the beautiful fictions among the Greeks about its origin, one of which is mentioned by *Apollodorus Atheniensis,* who tells us how, in the reign of Cecrops, Neptune, smiting the earth with his trident, made the sea flow at his feet; how Minerva, determined to outdo his marine godship in beneficence, called on Cecrops to bear witness to what she was going to do, and made an olive tree spring from the ground; how these divinities quarreled about the value of their respective gifts to Attica, and Jupiter, to settle it, appointed twelve gods to determine the question, which august jury of divinities gave a verdict in favor of Minerva; and to the rank assigned to it by Columella among the Romans, as being the first among trees. Yet in the whole of the United States, I know of but two or three instances, in which attempts have been made to introduce the culture of this tree. Long ago, indeed, the colony of Greeks settled at New Smyrna, in E. Florida had planted the olive, and only sixty years ago there were large trees marking the site of that settlement. Recently, Mr. Cooper of St. Simons, and Mr. Spalding, of Sapelo, Georgia, have tried its cultivation, I think, with success; and in the garden of Mr. Rose at Macon, I saw recently a flourishing tree which had thus far withstood the winters there. I suppose the general impression that it would not endure, without injury, the cold of our winters, has deterred cultivators from turning their attention to it; as it is known that the severe winter of 1807 destroyed a large part of the olive trees in the south of France; and as it is known too, that Humboldt, in his essay on the geographical distribution of plants had set down the olive as requiring a climate with a mean temperature of 57 deg. 17 m. the greatest cold being 41 deg. 5 m. Mr. Jefferson, however, says that when killed by frost, it will spring up again from the roots; so also says Mr. Hillhouse; and such is the experience of Mr. Spalding and Mr. Cooper. If the varieties cultivated in France were the only ones to be had, even their comparative tenderness ought not to be an objection to attempting their cultivation here. For all experience shows, and philosophy teaches, that plants of temperate climates, in time, by frequent reproduction from seed, adapt themselves to colder climates, in which, at first, they invariably perished. The Melia Azedarach furnishes a familiar illustration of this fact; and applying to the well known characteristics of the olive tree, the first and second of the laws of temperature, with respect to its influence on vegetation, as laid down by M. De Candolle, we may confidently conclude therefrom that it will adapt itself to our climate even sooner than the Melia.

Happily, however, there are varieties to which this objection cannot be made. "In the southern part of the Crimea, which lies between the latitude of 44 deg. and 46 deg. two varieties of olives have been discovered, which have existed there for centuries. They yield great crops and resist the frost."

"These olives have been cultivated in the Royal Imperial Garden of Nikita, to preserve and multiply the species, with plants which had been received from Provence, and have endured the rigorous winters of 1825 and 1826, while those of Provence, in the same exposure, perished even to the root. Measures have been recently taken in France for the introduction into that country of these two precious varieties, *which are capable of resisting ten or twelve degrees of cold below the zero of Reaumur's thermometer—equal to five degrees above the zero of Fahrenheit.*"—*Kenrick's Amer. Orchardist,* 3d *ed. p.* 333.

The nurserymen of the United States incur great expenses in introducing such exotics as the Cedar of Lebanon, Garoga elyptica, Paulownia imperialis, Pinus deodara, &c. &c.:—all of which are very beautiful trees; but when they are said to be very beautiful and very rare, all is said of them that can be, with truth, except that they are very expensive. It is true that purchasers are found who are willing to pay high prices for them; and in this, those who import them, find their remuneration. By incurring an expense, not more, it is believed, than has been incurred in the introduction of any one of the exotics above named, the olive of Nikita may be introduced. And if it stand the rigor of our climate, as it does that of its native region, may we not hope to see it, in a few years, spreading over the southern States, adding to the comforts and the wealth of our people? Once introduced, its propagation is a matter so very simple, that it may be easily disseminated to any extent in a very short time. Such men as Dr. Cloud of Alabama, Dr. Phillips and Mr. Affleck of Miss., I would suppose would not rest until they secured the introduction of the olive into their States, respectively. Mr. Affleck, especially, will surely not consider Ingleside complete, until an olive grove shall have been added to his establishment.

Dampier and Lord Anson, the former as far back as 1688, had described the Bread Fruit, as a most invaluable production of the Ladrone Islands. In 1787, persons in London, interested in the West India Islands, prevailed on the King of Great Britain to order a ship to be fitted out at the expense of the nation, for the purpose of introducing the Bread Fruit as an article of food, into the West India Islands. The first voyage, under Lieut. Bligh, was a failure. But the object was ultimately accomplished. The result, from some cause or other, did not answer the expectations of those who had taken an interest in it; yet they never regretted having made the effort, nor the charge made by it on the public treasury. Is it not a matter of higher importance to the southern States of our confederacy that the Nikita olive should be procured at the public expense? Look over the list of seeds and plants brought home by the Exploring Expedition—estimate the whole at the highest value that can properly be set upon them, and all together, so far as real utility is concerned, they are not equal to the value of the Nikita olive. Yet how they are cherished—with what care and expense they are preserved! The government of Great Britain incurs heavy expenses to introduce the Bread Fruit into the West India Islands; the government of France takes measures to introduce the Nikita olive into that country. Shall our government, established in all its branches, on principles of utility, and professing to be regulated in all its movements, exclusively by these principles, lag behind the old and decaying monarchies of Europe in enterprises like these? Shall it be said that in our republic, its exploring expeditions, undertaken professedly for the public good, shall belie the character of all our institutions, by preferring, in their collections, articles of show to those of utility?

Athens, Ga., March 10, 1844. JAS. CAMAK.

IMPROVEMENT OF FARM STOCK.

MESSRS. EDITORS—The improvement of farm stock can hardly be too frequently brought before the mind of the agriculturist, and of all who feel any interest in the prosperity of the country. No individual of any observation, whose attention has been drawn to this subject, and who has had an opportunity of critically examining the quality and character of the stock reared by a vast majority of farmers, can fail to be forcibly impressed with its importance to the nation, as a permanent, certain, and reliable means of largely increasing the aggregate wealth and resources of the whole country.

It is believed that this subject may appropriately engage the attention of the merchant, the manufacturer, the statesman and the patriot, as well as the farmer, when it is considered that agriculture is the foundation and the main source of national wealth, as it puts in motion, and imparts life and energy to all other branches of national industry. Let the agricultural products of the country fail for a single year, and what effect would it produce on all other interests? The ships of the merchant would be found moored and decaying at his wharf; the manufactories would cease to operate; our noble canals would then indeed become a "*solitary wilderness*," and every branch of industry would become paralyzed.

If then, such vast interests are so intimately connected with a well regulated, intelligent and prosperous husbandry, it may well be inquired whether improvement in farm stock, which is one of the principal items of the farmer's wealth, is not important, and intimately connected with the general interests and prosperity of the country? More particularly is it so to the farmer, and improvement must principally depend on his well directed and persevering exertions. Each farmer should put the question directly to himself—"Have I, in my possession neat cattle which possess the greatest combination of excellence, which are the most profitable for the dairy, which will mature early, and when no longer wanted for dairy purposes, will put on flesh with the least expense in feeding for the butcher? Have I the best sheep for fleece and carcass—the best breed of swine, those of quick growth and approved fattening qualities?" And if, on investigation, he becomes satisfied he is deficient in one or all of this description of animals, his own interest should at once stimulate him to spare no pains to procure such, no matter if it be at extra exertion, and a reasonable additional expense; for what is an outlay of a few hundred dollars compared with the accumulated profits one may reasonably expect to derive in the period of a few years. Besides, there are other considerations of great interest that should not be lost sight of. It is well known that a great proportion of the labor and expense of the farmer is bestowed upon his grain and root crops; and when those are well secured, it becomes a matter of interest to decide how they shall be disposed of to the most profit. Perhaps a great proportion of farmers decide on feeding them to their stock to fatten them for their own consumption and for the butcher. If stock can be raised, which will consume one-third or one-quarter *less* food than the ordinary or unimproved stock of the country, how important is it he should rear such stock?

This is no ordinary subject; and there can scarcely be any just reason why it should not as deeply interest the agriculturists and arouse them to action, as does the improvement of our home fabrics interest and engage the attention, zeal and persevering energies of the manufacturers. Why do those who are engaged in this branch of industry devote so much time and means in perfecting labor-saving machines? Why so much solicitude in regard to a discriminating protective tariff, and why do they invoke the aid and influence of the agriculturist, whenever there is a proposition to modify the tariff in the slightest degree, and why is an appeal made to sustain this interest through pamphlets, hand-bills, and in the columns of almost every newspaper in the country, calling upon all classes to sustain this interest? It is simply because they have the discernment to see that their interests are involved in this question, and that their prosperity is in jeopardy. This is a right spirit, when so restrained and directed as not to infringe upon or injure other equally important interests. Now until something like the same spirit which so extensively pervades the minds of those who are engaged in manufacturing, is infused into the minds of the practical agriculturists, improvement in farm stock will be of slow growth, and no permanent beneficial results can reasonably be expected. The agriculturists of England understood well their true interests in this branch of husbandry, and they have extensively encouraged the breeding of superior stock, and for the last fifty years or more, have by unwearied attention and perseverance brought up their stock to a point of perfection which is unrivalled by that of any other country, and which has largely contributed to swell the wealth of that nation. This improvement has increased their commerce; their stock has attracted the attention of other countries, and exportations to a considerable extent are annually made, and at high prices. The writer of this article recently wrote to a distinguished breeder of England to be informed what he would charge for one of his best Durham heifers to be shipped this spring, and he replied that his price for one about two years old, would be two hundred, and for another one about three years old, would be three hundred guineas. This fact is stated merely to show the value they put upon improved stock.

There have been imported into this country a variety of the very best improved breeds of animals from England, at considerable risk and expense, to propogate and to improve our native stock. Thus a foundation has been laid, which if duly appreciated by those most deeply interested, very favorable results may justly be expected. Who has attended our State and County fairs for three years past, and has not had his admiration excited by the fine display of the noble Durhams, Herefords and Devon cattle, as well as the fine sheep and swine which have graced their exhibitions and done so much honor to their owners. This stock has justly elicited the approval of the several viewing committees appointed as judges, and they have very properly awarded them the highest premiums of the several societies; and it is exceedingly to be regretted that the matter should rest here. If the owners of those improved breeds of animals should have one or more which they could dispose of, to those whose interest it is to purchase them, if any offer is made for them it would hardly be sufficient to pay the freight on a single animal across the Atlantic. Is this a right spirit? Will such apathy and disregard of interest, on a subject which is so intimately connected with the great agricultural interests, promote improvement, or will it not produce a decidedly contrary effect, and discourage those who now take an interest in the subject, and who are willing to devote some time and their resources, to carry forward improvement? It is to be hoped that a better spirit will soon prevail, and that that attention will be given to the subject, which from its importance it is justly entitled to. The fair of the New-York State Agricultural Society is to be held at Poughkeepsie in September. The location selected for it is a good one, and affords great facilities for transporting stock. The premiums offered on stock are of sufficient magnitude to induce owners of good stock to exhibit it, and doubtless there will be a display of fine improved animals which will far surpass that of any other exhibition which has ever occurred in this country. The concourse of people which will there assemble, will doubtless be very great, not only from this but from other States, and if a right spirit is evinced by those whose interest it is to possess good stock, a new impulse will be given to this branch of husbandry which may in a few years produce great improvement, and eventually raise the quality of our stock to a point of perfection equal to that of England. These thoughts are thrown out in the hope that the subject may engage the attention of others previous to the fair in September. C.

Rensselaer County, April 25, 1844.

SOUR SOILS.

It seems to be a matter as well settled in the minds of some men, as if it were actually demonstrated, that certain uncombined *acids* exist in some soils, rendering them what are termed "sour." From whatever this has taken its rise, it is so deeply rooted, that it is questionable if any evidence will be sufficient to convince them of the error, so long as they falsely think, that it is reasoning against the evidence of their senses. One source, and perhaps the chief one from which this idea has sprung, is the benefit arising from the application of alkalies and alkaline earths. But this is too much like framing a theory, and compelling facts to support it. The little knowledge which every one possesses of chemistry, teaches him that the effect of an acid upon an alkali is to produce a salt—a compound of a mild and inactive kind, in comparison with the elements that go to form it. That great benefits do arise from the application of such substances to some soils, cannot be denied. But is it in this way? Is it because free acids exist in the soil which are injurious to vegetation, and whose effects are destroyed by uniting them with an alkali? I think not. Let us examine it a moment.

What acid or acids are found by actual analysis in a free state in the soil? I do not ask for the quantity, but simply for the presence of them. It cannot be carbonic, for this, every one knows, is an essential part of the food of plants; and in the amount in which it is commonly found, instead of being prejudicial to plants, is an actual source of life and vigor. Look at the analysis of soils given by the most correct analysts. We find, it is true, that *inorganic* acids (sulphuric and phosphoric and muriatic,) are present in variable quantities in almost all soils. But what of that? Do we not find also the alkalies, (potash, soda, lime and magnesia,) and the oxides of iron and manganese, as invariably present. True, we are not told in so many words, that they are combined with the acids. But can we suppose that these substances will exist by the side of each other, in circumstances the most favorable for union, and yet remain uncombined? By no means. The moment they come in contact, they unite and form salts, and in this form they are found. I am authorized to say that the examination of the soils from various parts of this State, made by Dr. Emmons, confirm these views.

Are the *organic* acids formed? It is granted on all hands, that these are all formed by the living and growing plant, and depend upon the plant in which they are formed for their peculiar character. The oxalic acid of the sorrel, tartaric of the grape, citric of the lemon and malic of the apple, and a host of others, may be formed by these plants, growing in the same soil. They depend upon the organs of the plant for their existence. Now are these ever found free in the soil. "We have no reason to believe that a plant in a condition of free and unimpeded growth, produces more of its peculiar acids than it requires for its own existence," (Liebig,) and he also says that all of them are "in combination with bases."

During the process of germination, a seed gives off acetic acid to the soil. Does it remain there uncombined? If so, we have no account of it. If seeds are caused to germinate in powdered chalk or carbonate of lime, after a time *acetate of lime* may be washed out from the chalk. (Bracconnet.) And it is possible that the acid is sent out for this very purpose, to dissolve the lime and return with it into the circulation of the plant. At all events, it is always found in the soil, combined with lime.

Oxalic acid is not known to exist in the soil, or in the water which reaches the roots of plants. So says Johnston, and yet the production of sorrel is by many supposed to depend upon the sourness of the soil. But observation proves that if this is the case, lime, the ordinarily recommended remedy, will not so neutralize the acid as to prevent its growth, even applied in immense quantities. Besides, as we hinted above, if the acid must unite with the alkali in order to prepare it to enter the plant, the result ought to be, that this weed should thrive all the better for the application of lime. But this acid has never been found in the soil.

Some physiologists attribute to the roots not only the power of absorbing food, but also of excreting those matters which are taken up with the food and are not necessary for the growth or life of the plant. Among the experiments instituted to determine this point, I find but one in which there was any evidence of an acid excretion. When the ground upon which the poppy had been grown was washed, a considerable quantity of acetic acid was found, but *in the form of acetate of lime.*

Do we ever find free acids in the water of springs or of wells? I believe that in no instance is this the case, although they always contain some salts. Yet this water is all filtered through the soil, and if free acids of any kind which are soluble, exist there, they must certainly be washed out. There is an apparent exception to this, but it is only apparent. We refer to carbonic and sulphuric acid, as they are found in some springs, and as they are produced beneath some soils in overwhelming quantities, so as to destroy all vegetable life. The presence of this acid depends upon some local cause for which there can be no remedy.

I have said nothing thus far of humic acid, which is known to abound in soils chiefly composed of decayed vegetable matter. And I have not referred to it for this reason, that it is utterly insoluble, and therefore can have no injurious effect upon vegetation. It does not affect my theory in the least, for I am only speaking of soils which contain free acids which are thus prejudicial, and which must of course be soluble. If it is assumed that soils abounding in this acid are *from this cause,* prejudicial, I shall still stand upon the same ground. But this cannot be assumed. These soils are unproductive, not because they contain this acid, for it is generally admitted to be itself a great source of nourishment for plants, under the proper circumstances, (being also connected as it is with all the elements of plants,) but because the acid is insoluble, and cannot in this state be conveyed into the mouths of plants.

I know of no evidence of the existence of any acid, organic or inorganic, in its uncombined state in any soil; and till I do, I shall remain as ignorant as I have ever been of what is meant by a "sour soil." This question has nothing to do with the action of alkalies. But the cause of their benefit must be looked for in something else than their power of neutralizing free acids. A. J. P

PRODUCE OF A VERMONT FARM.

Messrs. Editors—I herewith transmit to you a statement of the products of my farm for 1843. I keep Dr. and Cr. and know at the end of the year how much nett profit or loss I sustain in my operations. I have not taken into the account the support of my family consisting of six individuals, but have offset that against the interest on the capital invested. Mine is a clay and muck farm of one hundred and thirty acres, lying on the banks of lake Champlain, with only ten acres of wood upon it; the rest being under improvement. I cannot boast of any great crops, it being my first year of cropping; consequently I have not got my land prepared for large crops of grain, but intend to practice a thorough system of rotation for the purpose of obtaining large yields per acre. I will give the gross amount of each crop, together with the price it brought, and also the expense I have been at in carrying on the farm:

Wheat, ...	100 bush. at	$1,25	$125,00
Rye, ...	168 "	50	84,00
Peas, ...	71 "	50	35,50
Oats, ...	250 "	30	90,00
Corn, ...	20 "	50	10,00
Buckwheat, ...	26 "	50	13,00
Potatoes, ...	200 "	25	50,00
Hay, ...	50 tons at, ..	6,00	300,00
6 steers sold, ...		25,00 each	150,00
Wool, 100 lbs., ...		28	28,00
			$885,50
I paid for labor, seed, &c, ...			252,00
Leaving a balance in my favor, of			$633,50

In addition to the above, I kept on the farm two span of horses, eight head of cattle and fifty sheep, and have wintered them thus far *on the straw and coarse fodder*, and no cattle in this vicinity look so well as mine. I have also in the above estimate for labor, included the putting in of twenty-three acres of winter wheat and rye, now on the ground, and it looks extremely well this spring. I am in hopes the present year, of doubling the above amount, if the season is favorable. Yours truly,

Chimney Point, Vt., March, 1844. D. C. Goodale.

"KNOWLEDGE IS POWER."

Never was this motto more signally illustrated than in the advantages derived by intelligent farmers from the aid of science. Even a slight acquaintance with chemistry and geology, is productive of profit for the pocket, as well as pleasure for the mind. "You may be somewhat surprised to find me farming on the hard soil of Connecticut, instead of teaching mathematics in a ship of war," said a worthy friend who lately visited Albany. "I am somewhat surprised myself, at the transition," continued my friend; "but the truth is, that when leaving the ship on a visit homeward, I bought a copy of Liebig's newly published book about Agricultural Chemistry, for the purpose of reading on my journey; and so much was I instructed and entertained, that I determined to take hold of the old farm once more, and endeavor to practice on the doctrines taught by that scientific German. I have done so for a couple of years; and the result more than realizes my expectations. By economy in increasing the quantity and improving the quality of manures, and by applying more manure and better cultivation, our corn crop is more than doubled—aye, almost trebled; our potato crop is much improved in quality, and greatly in quantity; and our meadows produce hay enough to leave a handsome surplus, where formerly the cattle we now keep would have found rather '*short commons*.' But the greatest improvement in reference to the cattle and meadows, results from adopting the plan which I saw mentioned in the Cultivator, as pursued by Josiah Quincy of Boston. The old stone fences running through our farm, were a nuisance in my sight—forming ready *harbors* for noxious vermin and weeds, besides occupying considerable ground. I determined to follow the Quincy fashion, (and those Quincies have many good traits about them,) by soiling our cattle, and thus rendering division fences needless. I thus keep the cattle in better order on the products of much less land, and save additional quantities of manure that would alone pay me for all the trouble I have in housing the animals. By underdraining, I have reclaimed considerable marshy land, making it now productive; and the peat-bog of twelve acres, formerly a mere nuisance, is now one of the most valuable parts of our farm—furnishing us with abundant material to throw into our hog-pen and cow-yard, for forming compost in connexion with an occasional sprinkling of lime to promote decomposition. I should not forget that even the weeds with which the old farm was infested, are now made tributary to the improved mode of cultivation; for, cut frequently, (as all weeds should be cut till they are exterminated,) they form material for additional manure, when drawn by me into the hog-pen or cow-house for litter. It is satisfactory to find that many in our neighborhood, who at first smiled incredulously at my notions of *book-farming*, (and also some well-meaning doubters, who are always slow of faith,) are now satisfied there is something in it less ridiculous than they formerly supposed. So, with this brief account of myself, since you last met me on board the line-of-battle-ship, do you wonder that I have now returned with increased interest to the old farm, where I learnt to plow in the same fields that were cultivated by my ancestors from the early settlement of Connecticut?"

As one of the multiplying evidences of the beneficial results of agricultural publications, as an example worthy of imitation by many of our farmers, young and old, the foregoing sketch is at your service—in the hope that young men who are inclined to abandon farming in the hope of better fortune otherwise, will at least "read, reflect and judge," before they abandon their farms, however "worn out" or unprofitable those farms may have been. Farmers who practice on such doctrines, have little need of crossing the Rocky Mountains in search of lands in Oregon. Rho.

PRESERVATION OF CORN FROM FROST.

Mr. S. N. Hawes, of Shoreham, Vt., relates a remarkable case of the exemption of a piece of corn from frost, which he thinks is to be attributed to the plentiful use of long barn-yard manure, in connexion with the stalks of a crop of corn which had grown on the ground the year before—the whole having been plowed into the soil. He says:—

"I plowed deep, strewing the old crop of stalks in the furrows and covering the whole entire. I had a rank and extra growth of a large kind, which required a longer time to mature; and some of the last days of August or first of September, the earliest ears had commenced hardening, when we had one of the severest frosts I ever witnessed at that season of the year. I had much anxiety respecting my corn crop, which I visited early in the morning; but the crackling of the frozen grass at every footstep, prepared my mind to behold it in ruins. Yet determined to know the worst, I pressed on, mounted the fence, which surrounded it, and to my surprise, not a particle of frost was visible upon it! I looked around upon every side; all bore a wintry aspect. I looked again upon the crop before me; it bore the appearance of having been wet by a gentle but profuse shower. I sprang over the fence, determined to pass through it; but ere I had reached half a dozen rods, was glad to retreat, and before I could effect it, was completely drenched. I again remounted the fence where I could take a view of every side; it was alike surrounded by a heavy frost.

"As I stood pondering upon the apparent phenomenon, the fact flashed upon my mind, that the process of decomposition from the extra quantity of long manure, particularly the old crop of stalks, was still going on to that degree that the heat completely counteracted the action of the frost. Near the middle of the day (which was extremely warm and clear,) I traveled a mile in length, visiting every field on the same level with my own, and all without distinction were entirely destroyed. Mine remained uninjured, and yielded an abundant crop of remarkable sound, ripe corn."

PLOWS.

Messrs. Editors—I observed in your last number, a notice and plate of "The Boston Centre Draught Plow," Prouty & Mear's self-sharpening patent, with new *gearing*. The advantages said to be secured by this new gearing, seem important. Where very deep plowing is required, the fastening extending down from the back of the standard, may interfere with the operation of the plow. This may be obviated, however, by adding to the height of both the plow and beam. The attaching of the wheel to the side of the beam, though doubtless an advantage when turning the last or dead furrow of a *land*, is counterbalanced by the fact, that this new mode of securing it, will not give it so much permanency and strength as the other, which admits of fastening on both sides of the beam; and hence, will be more liable to get out of order. These conclusions are not the result of any experience with the plow, but are formed simply by seeing the excellent plate referred to in the number.

There are many good plows in this country, and this instrument has been the subject of great improvement during the present century. But it is somewhat a matter of astonishment to observe how *sectional* a thing a plow is, and what a pertinacity of opinion is exhibited in reference to its qualities, so many claimed to be the best kinds. Perhaps it would be no difficult matter to find a score of patents in the hands of as many different farmers, all believed to be the best existing. And indeed there is some ground for this partiality and difference of opinion. Different soils require differently constructed plows. Of this, I have seen abundant proof, but I by no means lean to the opinion that all the variety of existing patents are equally good, and each best adapted to some peculiar location. I rejoice to see improvements in implements of husbandry, and trust that all useful ones will prove as profitable to the inventors, as they are beneficial to the community of agriculturists.

Prouty & Mear's plow is a self-sharpener, and judging from the plate, the point and share are two separate pieces of cast iron, which may be reversed. On the farm to which I am attached, Cornelius Bergen's patent plow No. 10, constructed on this principle, has been used for perhaps twenty years. I believe Mr. Bergen is entitled to all the credit of this improvement, as well as having on account of the peculiar form of the mold-board, produced the lightest draught plow ever tested by an instrument. I think the records of the American Institute will bear me out in this remark. This reversal of the share and turning of the point when worn on the lower side causes the *set* to be downwards again, and may be repeated until the point is worn to a short *stump*, and has the same effect as a new share, on plows where the point and share are cast in the same piece of iron. Hence it is a matter of considerable economy, for it must be evident to every plowman that the share is usually cast aside because the point is worn up from below, and not because it has become dull. If it could be turned, it would answer for much additional wear.

Mr. Bergen's plow is the best for green sward plowing I have ever seen in use, especially if the sod is old and tough. The form of its mold-board, and general shape, is such as to meet with comparatively little resistance in its passage through the ground, while at the same time it admits of taking a broad furrow or slice, and turns it over to the best advantage. Thus much for its general adaptedness. But I have said that the same plow is not the best for every kind of soil. Land in which the mold-board will readily scour or brighten, will admit of the very acute angular plow; while soil that contains little or no grit, and where the ground constantly adheres to the board, requires a greater angle for the mold-board so as to increase the friction. I am aware that there are soils which will constantly adhere to the plow, no matter how well scoured and brightened before put in use. There must be a limit to this increase of angle, beyond which it cannot be safe to go. Every farmer should obtain a plow that will clear itself in its performance, when the nature of the soil will admit of it, for a clodded mold-board neither performs well or draws easily.

A plow that performs best in sod, will not always be found the best for mellow ground. Plows therefore of different construction are frequently very desirable on the same farm, though there may be a uniformity of soil—one (the acute angle like Bergen's,) to secure lightness of draught, where in a heavy sod, lightness is required for the benefit of the team—the other for loose ground where a plow similarly constructed, sometimes fails to force over the furrow to a sufficient distance. Now it follows, if these remarks in reference to the soil and state of the ground be correct, as connected with plowing, and they are the result of some experience, then no one patent should bear the palm over all others, and for all purposes.

I will add, Messrs. Editors, that I have no interest either directly or indirectly in the sale of plows of any patents, but would recommend for ordinary soils, Mr. Bergen's patent. Its advantages are lightness of draft, strength, economy in the cost of sharpening, and the capacity of performing the best work in green sward. I might add durability, for the friction being easy, the mold-board will wear well, while all the advantages of the improvements of the wheel and the new gearing attached to the centre draught plow, is alike applicable to this, as well as other patents. Many of the peculiarities of Mr. Bergen's genius as exhibited in his plow, have been incorporated in other patents; some have adopted the form of his mold-board, others the length of the iron which travels through the ground, and gives steadiness to the operations of the plow, while another has added the self-sharpening principle, though the ideas may be original to the inventors of the different patents.

Brooklyn, N. Y., May 10, 1844. J. G. B.

SHEEP INJURED BY CLOVER.

Messrs. Editors—In reading the "Prize Essay on the preparation and use of manures," published in the last September number of your valuable paper, I noticed under the head of green crops, it is recommended as a means of enriching the land, "to let the clover grow until nearly or quite in blossom and then turn sheep upon it."

This method would no doubt answer very well for the land, but I think would not be as beneficial to the sheep; the reasons for which opinion, may be found in the following statement of facts.

On the 9th day of June, 1836, immediately after washing, I turned a flock of about one hundred ewes with their lambs, into a field of about twelve acres of clover, (common red,) as the season was favorable, the clover was very fine, and was in the state recommended in the Essay, just coming fully into blossom; the sheep remained in the field until the 20th, when 19 of them died, as I believe from the effects of clover pasture. The first symptom of disease shown by them was reeling and staggering backwards for a little while, after which they lay insensible until they died, which happened with the greater number in an hour or two. There were twenty-five taken with the disease, of which number six recovered.

I of course removed the sheep from the field, and saw no more of the disorder. I then made strict search throughout the field to discover anything poisonous, but could find nothing except two very small stools of elder that should not be there. I found, however, that the grass on the strips of old sward along the fences, and also on a small corner of the field that had not been disturbed by the plow, was gnawed down to the ground.

The sheep also showed their dislike to the clover, by twice breaking out of the field over a good ordinary fence, which was a very unusual thing for them to do.

These sheep were of a mixed breed of Saxon and Merino, in fine thrift, being the choice of my breeding ewes. I made a *post mortem* examination of two of the carcases, and found no unusual appearance, except that the paunch seemed very red and inflamed. There was no distention as in bloat.

Gypsum—Inquiry.—Will you, or some of your numerous correspondents who are competent, inform the readers of your paper, of the comparative merits of the different kinds of gypsum as manure. I know some far mers who prefer the French plaster to the Nova Scotia; and I have heard it said that that of our own State was much better than either. If this be true, it seems to be very poor policy to import from abroad an article which may be obtained better at home.

Respectfully yours, PIERRE V. C. MILLER.
Shawangunk, Ulster Co., March 18, 1844.

PHILOSOPHY OF WOOL—No. V.

I have briefly treated thus far of the several valuable properties of wool; valuable, however, only as each contributes its part in the process of manufacture, and all secondary or subordinate, yet in a measure essential to, the felting power.

The phenomena of *felting* long remained enshrouded in mystery. This gave rise to numerous speculations as to the primary cause or causes, many of which, although plausible at the time of their publicity, now that the true cause has been discovered, appear sufficiently ridiculous. But the keen sagacity of man at length mastered the subject by surmising the correct theory, without the means, however, to demonstrate it, for want of microscopes of adequate power. To M. Monge, the distinguished French chemist, are we indebted for the first correct view of the structure of the fibre, which, from its peculiarity, mainly depends the felting principle. He asserted "that the surface of each fibre of wool is formed of lamellæ, or little plates which cover each other from the root to the point, pretty much in the same manner as the scales of a fish cover that animal from the head to the tail, or like rows placed over one another, as is observed in the structure of horns;" and he accounts for the felting process in the following way:

"In making a felt which is to constitute the body of a hat, the workman presses the mass with his hands, moving them backwards and forwards in various directions. This pressure brings the hairs or fibres against each other, and multiplies their points of contact. The agitation gives to each hair a progressive motion towards the root; but the roots are disposed in different directions—in every direction; and the lamellæ of one hair will fix themselves on those of another hair, which happens to be directed a contrary way, and the hairs become twisted together, and the mass assumes the compact form which it was the aim of the workman to produce. If the wool is in cloth and subjected to the process of fulling, the fibres which compose one of the threads, whether of the warp or woof, assume a progressive movement; they introduce themselves among those of the threads nearest to them, and thus by degrees all the threads become felted together, the cloth is shortened in all its dimensions, and partakes both of the nature of cloth and of felt." No language can be employed which will convey a more correct and vivid impression of the process of felting, than the foregoing.

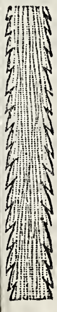
Through the indomitable perseverance of Mr. Youatt, the author of a valuable, though too diffuse, treatise on British sheep-husbandry, Monge's theory was finally demonstrated, although he was often frustrated, and almost yielded to despair, from the imperfections of his instruments. The construction at last of a superior achromatic microscope by Mr. Powell, of London, enabled him to realize his ardent wishes; and his own description of the scene, and the conclusions to which he arrived, are of too much interest to admit of any abbreviation.

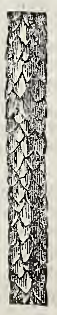
"On the evening of the 7th of Feb. 1835, Mr. Thomas Plint, woolen manufacturer, resident at Leeds; Mr. Symonds, clothing agent, of London, Mr. F. Millington, surgeon, of London, Mr. Edward Brady, veterinary surgeon, Mr. Powell, the maker of the microscope, and the author himself, were assembled in his parlor. The instrument was, in Mr. Powell's opinion, the best he had constructed. A fibre was taken from a Merino fleece of three year's growth; the animal was bred by, and belonged to Lord Western. It was taken without selection, and placed on the frame to be examined as a transparent object. A power of 300 (linear) was used, and the lamp was of the common flat-wicked kind. The focus was readily found; there was no trouble in the adjustment of the microscope; and after Mr. Powell, Mr. Plint had the first perfect occular demonstration of the irregularities in the surface of the wool, the palpable proof of the cause of the most valuable of its properties—its disposition to felt.

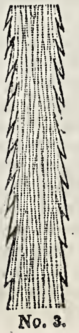
"The fibre thus looked at, assumed a flattened riband-like form. It was of a pearly grey color, darker towards the centre, and with faint lines across it. The edges were evidently hooked, or more properly serrated—they resembled the teeth of a fine saw. These were somewhat irregular in different parts of the field of view, both as to size and number. The area of the field was now ascertained; it was one-fortieth of an inch in diameter. By means of the micrometer we divided this into four, and we then counted the number of serrations in each division. Three of us counted all four divisions, for there was a difference in some of them. The number was set down privately, and it was found that we had all estimated it at fifteen in each division. Having multiplied this by four, to obtain the whole field, and that by forty, the proportionate part of an inch of which the field consisted, we obtained a result which could not be disputed, that there were 2,400 serrations in the space of an inch, and all of which projected in the same direction, viz. from the root to the point. Then, before we quitted the examination of the fibre as a transparent object, we endeavored to ascertain its actual character, and proved it to 1-750th of an inch.

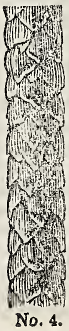
"We next endeavored to explore the cause of this serrated appearance, and the nature of the irregularities on the surface, which might possibly account for the production of these tooth-like projections; we therefore took another fibre, and mounted it as an opaque object. There was considerable difficulty in throwing the light advantageously on the fibre, so small a space only as 1-30th of an inch intervening between the lens and the object. At length Mr. Powell perfectly succeeded; and we were presented with a beautiful glittering column, with lines of division across it, in number and distance seemingly corresponding with the serrations that we had observed in the other fibre that had been viewed as a transparent object. It was not at once that the eye could adapt itself to the brilliancy of the object; but by degrees these divisions developed themselves, and could be accurately traced. These were not so marked as the inverted cones which the bat's wool presented, but they were distinct enough; and the apex of the superior one, yet comparatively little diminished in bulk, was received into the excavated base of the one immediately beneath, while the edge of this base formed into a cup-like shape, projected, and had a serrated, or indented edge, bearing no indistinct resemblance to the ancient crown. All these projecting indented edges pointed in a direction from root to point.

"Whether these, like the cones of the bat, are joints, or at least points of comparative weakness, and thus accounting for the pliancy and softness of the fibre, or regulating the degree in which these qualities exist, may perhaps be better determined by and by; one thing, however, is sufficiently plain, that these serrated edges in the transparent object produced (when the fibre was resolved into its true form as an opaque one) by the projecting edges of the cups or hollowed bases of the inverted cones, afford the most satisfactory solution of the felting principle that can be given or desired. The fibres can move readily in a direction from root to point, the projections of the cups offering little or no impediment, but when they have been once involved in a mass, and a mass that has been pressed powerfully together, as in some part of the manufactory of all felting wool, the retraction of the fibre must be difficult, and in most cases impossible."


No. 1.


No. 2.


No. 3.


No. 4.

The annexed cuts exhibit microscopic views of fibres of wool from picklock samples of Merino and SouthDown fleeces. The relative difference of serrations can not be conveniently delineated in a plate; a marked difference, however, will be observed in the construction of the lamelæ or serrations.—No. 1. A fibre of Merino wool as a transparent object; No. 2. The same, as opaque; No. 3. A fibre of South Down wool, transparent; No. 4. The same, opaque.

The pressing engagements of the writer at this busy period of the year, will preclude the pleasure it would otherwise afford him to continue the discussion of this interesting subject. L A. Morrell.

BEES.

Editor of the Cultivator—I give here a few questions which if answered through the medium of your paper, will be of essential benefit to many in this vicinity.

By what means can the common board bee-hive be rendered safe against the bee-moth?

If the common hive cannot be made safe, what kind of hive can?

What is the best method of making a bee-hive or house to prevent bees from swarming?

I have tried almost every method to keep the worms from the common hive, such as raising it on nails, sprinkling salt around it, &c. &c. I have also used some of the patent-hives, but entirely without success. I have heard that when a hive is very large, by keeping the bees without swarming, the moth rarely enters it. Is it so?

Fishkill, May 1, 1844. A. B. C.

We think it would be difficult, if not impracticable, to make the "common board hive proof against the bee-moth." A great many kinds of hives have been constructed to guard against the ravages of this destructive insect. A few of them have been more or less useful, but by far the greater portion have been of no benefit whatever. The moth is an insidious enemy, and makes his attack on the hive in such a way that it is not easy to defeat him, and when he has once obtained a lodgment within the hive, it is almost impossible to get him out. The "inclined plane" has been adopted in many cases for the bottom of the hive, under the supposition that the bees would somehow get the worms from their hiding places and drop them on to this board, from which they would roll off to the ground. We are satisfied from critical observation that the number of worms got out of the hive in this way is comparatively trifling. The worm works under the protection of a web, which secures it from their fangs of the bees as effectually as if it were clad in a coat of mail. If the bees undertake to get him out, the feet and fangs soon become clogged with the fibres of the web, and they give up their labors in despair. When the worms have reached their full size and are about to pass into the pupa or chrysalis state, they sometimes crawl about considerably, their object being, apparently, to find a suitable place in which to spin their cocoons and undergo transformation. At this time they are fully exposed to the attacks of the bee, who sometimes seizes and drags them out of the hive. But even then they evince an extraordinary sagacity in finding their way back. When thrown by the bee from the edge of the hive or the inclined plane, they have been frequently observed to be attached to the board by a small web, by which they would directly wind themselves up again to the hive. They have been seen to do this when thrown from the bottom board three successive times, and were then effectually expelled only by the bees carrying them off so suddenly and so far as to break the web before dropping them.

Like many other insects of the same tribe, the bee-moth lies still during the day, and is only active at twilight. Hence, a wire screen thrown over the entrance to the hive during the night, or while the moth is busy, is a good protection. By a little attention, many of the moths may be killed at the time they are hovering round the hive in the evening. Some of the worms may also be caught at the time when they are seeking places for transformation, by placing little troughs, pieces of bark, or elder quills, split in two, so as to make a suitable shelter for them. The worms will be found under them in the morning, and may be killed.

The best defence against the moth, is to guard as much as possible the entrance to the hive. It is much easier to keep an enemy out of a fortress, than it is to expel him when he has once gained possession. In this case, the bees become tired of a continued opposition to the moth, and finding that he has obtained a secure footing, leave him almost unmolested.

The hive should be made of good seasoned stuff, that will not warp, and be put together as closely as possible. There should be no cracks or crevices, for these are sure to afford harbor for the moth. The entrance should be no larger than is really necessary to afford space enough for the bees to pass. The smaller the entrance, the more easily and effectually may it be guarded against intruders.

H. A. Pitts, of Winthrop, Me., has invented a simple contrivance for keeping the moth out of the hive, for which he has obtained a patent. It consists of a series of false bottoms, or slides, attached to the under part of the hive. These slides project out in front of the hive, having spaces of a quarter or a third of an inch between them. A small drawer is made in the back part of the false bottom, or in the rear of the slide, into which some honey-comb is placed. The moth is thus induced to deposit its eggs there. The drawer and slides may be pulled out and the worms destroyed as often as necessary without at all incommoding the bees. The contrivance costs but a trifle, and may be attached to any hive. Where it has had a fair trial, it has been well liked, and is a great protection against the moth. It should be observed that the entrance to the hive is screened by a thin cleat, cut out on the under side so that the bees can pass into the hive, and nailed across over the entrance. This prevents the moth from readily discovering the entrance to the hive, while the spaces between the slides and the drawer, furnish just such a habitation as they desire.

As to the best kind of a house to keep bees from swarming, we remark that there have been many such invented—some of them, under the name of "*palaces*" costing from thirty to forty dollars each. We know not which is "best." For ourselves, we should not be in favor of any of them. It is more natural for bees to swarm, and they will increase much faster, and make more honey in proportion to their number, by being allowed to do so, than if prevented from swarming. As to these *palaces* preventing the moth, we have seen none that appeared likely to do so—on the contrary, their construction is generally so complicated as to afford the moth a very secure harbor, and we have seen many where the moth had succeeded in gaining full possession of the hive, and had nearly exterminated the bees.

WHITE DAISY.

Messrs. Editors—In the summer of 1837, we observed for the first time in a field of ten acres, about five completely covered with the White Daisy; so much so that no domestic animal which we raise, would graze among them, or even look for grass where the daisies grew. They were mowed off that summer, but apparently to no purpose. The next spring, as soon as grass had started, we turned about one hundred and twenty wethers and yearling lambs into that field and kept them there as long as there was any thing green to be seen, when they were driven out until the daisies and grass had started up, when they were put back, and the daisies again eaten off. We continued to change them in and out of that field throughout the summer—our object being to keep the ground where the daisies grew as bare as sheep could be made to gnaw it. The end of this is, that there has not been a daisy there since.

We would recommend to those readers of the Cultivator who are troubled with the daisy, to use their sheep, (if they have any,) not only for the comfort of themselves and families, but for labor-saving animals also. They should be confined to the daisy on its first appearance in the spring, and so many of them as to eat all clean in two weeks or less, when they may be changed into another field, till such time as the daisy again springs up. We have never known or heard of daisies being destroyed in this way before. If you think this worth knowing, please publish it. Frank Farmer.

The Garden and the Orchard.

CULTIVATION OF FRUIT.—No. VI.

THE QUINCE.

The quince may be propagated by layers, seeds and cuttings. If by cuttings, they are to be taken from the tree in spring, and placed in a light, deep soil, in a moist shaded place, buried not less than ten inches or a foot deep, and leaving but a small portion above ground. If a shaded place cannot be had, spread over the surface of the ground, after they are planted, a coat of decayed leaves. If the weather becomes very dry, water them.

To obtain trees by layers, the young shoots are to be laid down in spring, and buried so as to leave only two or three buds at the extremity, above ground; and when these have grown a few inches, one only is to be left, which will grow the same season, from two to three feet. In the autumn, if well rooted, they are to be removed from the tree and set out in rows; and if the ground is suitable, and they are kept straight by stakes, they will in two years more, make good trees for removal as standards.

The *soil* for the quince should be deep, rich, and somewhat moist. The trees being small, the distance asunder need not be more than eight or ten feet.

The best varieties are the *Orange*, the *Pear* or *Oblong*, and the *Portugal* quince.

The *Orange*, sometimes called from it shape, the *Apple* quince, has ovate leaves, downy beneath, and large roundish fruit, with a short thick neck, and is of a beautiful rich yellow color. It ripens about the middle of autumn. It is the only variety extensively cultivated in this country. There appears to be several sub-varieties, differing slightly in shape, and considerably in size, but little in quality. The largest sometimes weigh a pound.

The *Pear* quince has oblong-ovate leaves, and a smoother, more delicate, and more elongated fruit, of a regular pear shape. It is quite distinct from the preceding, resembles it in quality, but is of more delicate texture.

The *Portugal* quince, though largely cultivated in England, appears to be little known in this country. According to Loudon, it has broad cordate leaves, and an oblong fruit, which is more juicy, and less harsh than the others, and therefore the most desirable. It is rather a *shy bearer*, which must form a decided objection, as cultivators find sufficient difficulty in this quarter, from the most prolific varieties.

Pruning, to the quince is indispensible. If neglected, it soon throws up a profusion of suckers and branches, and ceases to bear plentifully, and the fruit becomes small, knotty and worthless. Such trees, by thorough and judicious pruning, have been known to yield abundantly of fine large fruit, one year after the operation, cultivation of the soil being also strictly attended to.

The Quince forms excellent stocks for some varieties of the pear, improving their quality, and rendering them more productive. The pears most benefitted by quince stocks, appear to be summer and autumn varieties and those of a decisively *melting* character.

The Japan and Chinese quinces are cultivated merely as ornamental shrubs.

A very formidable, and nearly the sole enemy to the quince, is the Borer. This is the larvæ of an insect, which attacks the tree near the surface of the ground, and works inwards, generally *upwards*, but sometimes *downwards*, to a distance of several inches during summer, perforating the wood. These depredators instead of throwing out their excreted matter like the peach worm, *pack* it behind them, as is common with all borers through *wood*.

The insect which produces this larvæ does not appear to be certainly known.* There is however, strong reason for believing it a species of Cerambyx. The writer received a few years since, an insect taken by L. W. Lawrence of Hudson from a quince tree which had been killed by the borer. It was one of several found in a chrysalis state in the trunk of the tree, and from which, the perfect insect sent, was obtained. It was found on examination to belong to the genus Cerambyx of Linneæus and Latreille. The following is a description. Antennæ with ten joints, tapering gradually towards the point, head white, except a light brown spot upon the crown, one of the same color behind each eye, and two very small diverging oblong spots upon the front; eyes very dark brown; labrum brown at the base, yellowish white on the upper surface at the extremity; thorax yellowish brown above with two broad longitudinal white lines, white beneath; elytra yellowish brown above, with two longitudinal white lines along the middle of each, and which are a continuation of the white lines on the thorax; all the lower part of the body hoary white. According to the author of the article Cerambyx in Rees' Cyclopedia, the larvæ "resemble soft, oblong, slender worms, with a shelly head, furnished with strong jaws, and six feet on the anterior part. *They live principally in trees, the inner part of which they bore through, reducing the wood to powder*, and undergo their changes from the larvæ to the pupa, and thence to the perfect state, in the cavities which they bore."

As the borer very frequently destroys the tree, various means have been suggested and tried to prevent the injury. Incasing the lower part of the trunk in a box of coal dust, pulverized blacksmith's cinders, tar, or unleached ashes, have been tried with various degrees of success. But the best method appears to be direct attack. The soil should be scraped away from the trunk to a depth of two or three inches, and then cut in with a knife lengthwise, and not *across* the bark where it is possible to avoid it, until the insects are found. The operation should be repeated once a week for several times, as there are generally a number in each tree, and some are almost certain to escape the first examination. Afterwards, the wounded parts should be coated with a suitable composition, as a mixture of tar with ochre or brick-dust, or thick paint. As the insects are constantly penetrating deeper, it is a great saving of labor to arrest their progress early, when they can be removed with facility; hence trees should be examined frequently. But when they have been neglected, and the tree becomes much perforated, to attempt to *cut* them out would destroy it; hence the expedient of drawing them out of the hole by means of a *flexible barbed wire*, has been successfully resorted to. At an earlier period, they are easily punched to death in their holes by a flexible twig. It has also been suggested, when the hole is very crooked, to inject strong soap-suds, or a decoction of tobacco, in order to destroy them. But it may be questioned whether this is sufficient for the purpose, as larvæ generally are very tenacious of life, some even continuing to live when immersed in nitric acid or a solution of corrosive sublimate.

Perhaps the best means of effectually preventing the ravages of the borer, would be to graft the quince upon pear stocks, as the latter is very rarely known to be attacked by this insect.* J. J. T.

EARLY FRUIT.

Many cultivators of fruit sustain a material loss by not directing their attention more particularly to the *earliest varieties*. They often allow one month to pass, unsupplied, when they might be furnished with abundance. The earliest garden vegetables frequently sell in market for ten times the common price, and early fruit possesses equal comparative value. They are not worth less for the cultivator's own use.

Strawberries and raspberries, of select varieties, would soon furnish a supply of delicious fruit; and when a very few weeks have elapsed, the earlier varieties of apples, pears, peaches, plums, and most varieties of apricots, will be fully ripe. To assist in procuring these, it may be stated, that the Yellow Harvest, Summer Pearmain,

---

*The writer has not seen Harris' treatise on destructive insects, which it is presumed, contains all the necessary information; but as others also may not have seen the work, the accompanying observations are detailed.

* In a communication, read a few years since, before the Mass. Hort. Soc. by E. M. Richards, it was stated that the plan called Southernwood, planted at the foot of the apple tree, effectually repelled the borer. It may be worthy of trial.

Juneating, and Bough apples; the White Primordian plum; the Amire Joannet, the Primitive or Little Musk, and Madeleine pear; and nearly all varieties of the apricot, ripen before or during wheat harvest; while the Early White Nutmeg peach immediately follows; and the Early Ann and Early Tillotson peaches produce excellent ripe fruit, at least two or three weeks before the common varieties of the red rare ripe, which are so generally considered as standing first on the list for early maturity.

TALK ABOUT FRUIT.

At the Farmer's meeting at the State House, Boston, on the evening of the 27th Feb., the subject for discussion was fruit and fruit trees. From the Mass. Plowman we condense the following:

Mr. Breck of the N. E. Farmer, thought the best way to prevent the depredations of birds, on cherries, was to raise enough for them and ourselves too.

Mr. B. thought the peach a valuable fruit, but in this climate it is very uncertain—it is sometimes killed by the severity of the winter. He prefers budding stocks in September.

Mr. B. V. French thought orchards should be plowed, or a space around the trees be kept well dug. He prefers the spring for transplanting—washes with potash water, sometimes lime—has used soap. He is much in favor of very deep plowing on first setting out an orchard—had sometimes used a sub-soil plow, and stirred the ground more than twelve inches deep. He sets alternate rows of cherry, apple and pear trees, with peaches also, in the intermediate spaces. Prefers to set peach trees quite late, even after the blossom begins to appear. In pruning, he cuts no large limbs, and finds he needs to cut none if he begins to trim when the trees are young. Plums, he thinks, do best near salt water—but they are an uncertain fruit on account of the curculio; which no one has as yet found an easy way of destroying.

Mr. Gray thought the spring best for transplanting. He has had trees suffer much from dry weather, and has saved them by putting moss round them. [Probably straw or chaff would do about as well.] He thought it too much work to tar trees to stop canker worms. He has seen square boards placed about the trunks at the cost of a shilling each, which was preferable to tarring. A wadding was stuffed between the board and the tree, and tar put on the under side of the board out of the reach of the sun and rain, where it would keep soft much longer. He prefers to set apple trees 40 feet apart—prunes when young.

Mr. G. thought the apple was the staple fruit of Mass. and a reasonable profit might be expected from an orchard. Pear trees may be easily raised here—they are longer than apple trees in coming to maturity, but they last longer. The old Endicott pear tree at Danvers, is now 150 years old. As to caterpillars, when young, the nests may easily be taken off with a conical brush. Canker worms will not annoy an orchard that is kept in tillage, so much as one that is left in grass.

Hon. Mr. Dodge observed that the cultivation of fruits was an interesting employment, and we had here great inducements to engage in it. He had no fears that the influx of productions from the west would spoil the business here. If we make proper use of our advantages, we shall not be injured. He said farmers were under great obligations to the Horticultural Society for the introduction of new fruits and the investigating the subject of the various insects that destroy them.

Mr. D. raised pear trees from seeds. For producing apple trees, he sows pomace, and sows ashes with it to correct the acid. He buds apple and peach stocks, the second year after they vegetate—buds peach trees the first summer—always takes buds that are fully matured, and suffers the little slip of wood to remain with the bud lest the eye should be injured.

Mr. Cole said there was no necessity that apple and pear seeds should freeze before they will vegetate; but to ensure germination, it is necessary to keep them moist. He kept two boxes of seeds in a cellar, one was kept wet, the other left dry—the wet ones came up readily, but the dry ones did not vegetate till the next year.

It seemed to be the general impression that it was best not to put trees deep in the ground when transplanted, and so far as experiments had been made, the plan of putting them entirely on the top of the ground, and covering the roots with compost of muck, loam, &c. seems to do very well.

The editor of the Plowman says there was a greater unanimity of opinion on the subject of managing fruit trees, than there used to be a few years ago. This is an evidence of the advantage of *comparing* opinions.

FRUIT TREES ON DIVISION LINES.

"Messrs. Editors—Although I do not suppose you consider the Cultivator as a law journal, yet your opinions on the following case would oblige at least one of your subscribers. When a fruit tree is planted so near a division line that a part of the branches pass over the line or wall, to whom does the fruit on such branches belong? and has one neighbor a right to enter another one's grounds to gather fruit so grown? Inquirer."

We are no lawyers; and the discussion of law questions forms no part of the proper business of the Cultivator; yet as the queries proposed are fairly put, and relate to matters sometimes misunderstood, and consequently the sources of contention and litigation among neighbors, we shall give our notions on the subject; premising that in so doing, we have no intention of trespassing on the domains of the gentlemen whose right it is to discuss and settle all questions of law and equity.

The answer to the first question is, that the right or title to the whole tree, trunk, branches and fruit, belongs to him on whose land the tree is standing. There is an old maxim, "Whoever owns the ground, owns all above it up to the sky;" and this has doubtless led some to suppose that fruit in the case supposed by our correspondent, changed owners by passing a wall or line. The first decision reported of this law question, was in 1693, and to this effect; that if A. planted a tree so near the land of B. that its roots extended into B.'s land, then A. and B. were owners or tenants in common, of the tree. But if all the roots grew in the land of A., although the branches did reach over the land of B., the whole property was in A. This decision, was, however, so clearly erroneous, that it has been over-ruled and set aside by later authorities, both English and American. In the case of Lyman *vs.* Hale, decided in 1836, in Connecticut, where the whole subject was ably argued, it was decided that when the trunk of a tree stands on the land of A., and sends its branches over, and its roots into the land of B., such overhanging branches and the fruit are the sole property of A.; and if B. gather such fruit, he is liable to trespass on A. In the language of a Report made to the Massachusetts Legislature in 1841, "The man who allows the branches of his tree to overhang his neighbor's farm, undoubtedly commits a wrong; but he does not thereby lose his title to those branches, any more than he would the title to his cattle by their being found trespassing, through his negligence, upon his neighbor's field."

The law respecting taking fruit grown as stated in the second query, would not seem quite as well settled as in the first instance, and decisions are somewhat contradictory. In the reign of James I. it was decided that "if a tree grew in a hedge, and the fruit fall in another man's land, the owner may fetch it in another man's land;" but in a case in 1832, it was decided that such right existed only where fruit so fell by accident: and Chitty considers this last case as settling the law on this point. The law, however, respecting the first query, virtually decides the last. The man who plants a tree to overshadow his neighbor's land, or sends its roots into his soil, does him an injury, and permits a nuisance, for which there are obvious and easy remedies. Justice Croke early decided that "one may cut down boughs if they hang over his ground," and the Conn. Courts, in the case of Lyman *vs.* Hale, held the same doctrine. Chitty confirms this as the law, but in the spirit of a good citizen, adds, "It would seem that there ought to be a previous request to the neighbor to abate the nuisance, before I proceed to abate it myself." Napoleon, who suffered not the minu test matters of right to escape his notice, thus enacted in his code: "Art. 672. A neighbor may require trees and hedges planted at a less distance, (lofty trees two metres, and low trees half a metre from a division line,) to be pulled up. He whose property is overshadowed by the branches of his neighbor's trees, may compel the latter to cut off such branches. If it be the roots that encroach on his estate, he has a right to cut them therein himself."

It seems then that the tree planted by A. is his throughout; but if he allows it to trespass on his neighbor, it becomes a nuisance, and is to be abated accordingly. When this is done, no question can arise respecting the fruit or the right of gathering. We beg leave, however, to say here, that those who are in favor of going strictly according to the letter of the law in all their dealings, yielding nothing to comity or neighborly feeling, will be very apt to find their estates passing into the lawyer's pockets, and they soon left without lands or trees to differ about.

CATERPILLARS.

In a late excursion through the State, we were surprised at the great number of caterpillars on the apple-trees. In the Mohawk valley, in particular, the foliage of the trees was in many instances almost entirely eaten up by them. It is really astonishing, that after having been at the trouble to raise trees, people will suffer them to be destroyed in this way. Caterpillars may be easily killed if taken when young. The best way is to take them early in the morning, before they get out of their nests, and wipe them off clean, web and all together, and crush them under foot. If there is any that cannot be reached by the hand, use a conical brush, attached to a pole, which will take them off pretty well. Spirits of turpentine, oil, and some other substances, are sometimes recommended to kill them. We have tried oil and turpentine, but found them to be injurious to the tree—frequently killing the branches to which they were applied. We should not, therefore, recommend their use.

Another matter very much neglected in many places, is the pruning of trees. We noticed several old orchards on the Mohawk, which seem to have been for years totally neglected in this respect. The branches were as thick, and interlocked as closely as a thorn hedge. It is impossible trees can bear fruit that is good for anything, while in this situation. They should be kept constantly pruned, leaving the proper branches free and open to the air and sun. This will give fruit of good size and flavor.

CHARCOAL FOR PEACH TREES.

Messrs. Editors—A friend of mine has just informed me of the success he has met with, by the application of charcoal to his peach trees; a few years ago he had some fine trees in his garden which invariably had wormy fruit; and the trees full of gum; when the fruit was about the size of marbles, he had the earth removed from each tree about 2 feet around and 3 inches deep, and filled up with charcoal; the result was that the fruit grew to a fine size free from worms; and every year since, the fruit has been good, and the trees became healthy and free from gum; while two trees left without the charcoal, continue to bear wormy fruit, and the trees unhealthy; as this will be in time for the readers of the Cultivator to make a trial this year, and should it prove as good with others as in this case, it will certainly be of great benefit to the fruit grower.

If farmers will plant their pumpkins, melons and other vines on land that brought corn the past year, they will never be troubled with the striped bug. This course has been practiced here for many years, and *has always* proved successful, when vines planted on land that had any other crop, even vines the year previous, are destroyed by the bug. H. R. Robey.

Hopewell, Va., May 10, 1844.

Chip or Scollop Grafting.—At a late meeting of the Farmers' Club, New-York, Mr. Carter described and performed this mode of grafting. A chip of bark and wood is cut out of a stock, a like chip is taken for the graft, and is inserted by little corresponding slits at each end to make a good fit. It is said that by this process, seed fruit can be successfully grafted on stone fruit, and *vice versa.*

Veterinary Department

CURE OF SWINNEY.

A correspondent of the Southern Cultivator gives the following for the cure of swinney or swaney in horses:

"Put a twist upon his upper lip, and introduce the small blade of a common pocket knife, (the point of which must be sharp,) into the thinnest part of the shoulder, which will be near the upper margin of the shoulder blade, and push it directly in until you reach the bone, holding the knife as you would a pen when writing, and scratch up the membrane that covers the bone for a space of the size of a silver dollar; the knife may then be withdrawn, and after the small quantity of blood that follows is wiped away, the orifice will not be seen. The knife may then be introduced in one or two places below the first, and used in the same way, and the operation is over. This may be repeated in six or eight days; we have but seldom found it necessary to repeat the operation more than twice or thrice, and in many cases a single operation will effect a cure."

TO REMOVE CHAFF, &c. FROM AN ANIMAL'S EYE.

Messrs. Editors—I send you the following description of an easy way to remove chaff or similar substances, from an animal's eye. Procure a small quantity of honey, and having the animal's head held fast, open the eye with the thumb and finger of one hand, dip the forefinger of the other in the honey, taking up as much as will stick on the end of it, and holding it near the eye, give it a sudden strike so as to hit the chaff with the honey on your finger, when the chaff will stick to the honey and be drawn out. If you do not hit it at first, try again. The reason of giving a sudden strike is, to hit it before the animal can shut or roll the eye, as it will do, if you attempt to touch it in a slow manner.

The above remedy, at the suggestion of a neighbor, I tried on a steer's eye that had an oat chaff in it for a week, and was inflamed so much as to be white in appearance, and totally blind, yet the chaff came out on my finger, and the eye was well in a few weeks. I have tried it since with like success. A dry oat chaff spread on the moist eye-ball will stick so that the animal cannot get it out, and when moistened by the eye-lid will not be seen without a close examination, yet it will destroy the eye if not removed. I suppose the above is not a new thing, but perhaps it may benefit some one of your readers.

Disease of an Ox, &c.—We lost an ox under the following symptoms. He was seen in the morning rubbing his head and chin with great violence on the fence, and against trees, &c., and so continued at intervals of a few minutes, till one side of its head and chin was raw, bloody, and much swollen, when he died in the afternoon. Some said it was the mad-itch, but knew no cause or cure. Perhaps you can tell. Do cattle ever have maggots in the head, like the sheep? We lost a sheep that acted precisely as the ox did, and on examining its head a maggot was found, which no doubt caused its death. The ox's head was not examined so closely, as to be sure whether it died from the same cause or not. N. W. C.

Four Corners, Huron Co., Ohio, Jan. 1, 1844.

We do not know that the *cause* of what is called *mad itch* has ever been discovered. In the tenth volume of the Cultivator, page 95, it is stated, "that Mr. Simms, of Indiana, after losing several cows by this disease, succeeded in curing the remainder by the following treatment. As soon as the animal was attacked, he gave it as much soot and salt as it would eat. In a few hours he gave it from three-fourths of a pound to a pound of sulphur, and in the morning as many salts. It is the opinion of Mr. S. Rust, sulphur alone would effect a cure, though he accompanied its action with salts."

The ox is not affected with worms in the head, like the sheep; though we have heard of instances of *leeches* getting up into the nasal sinuses and occasioning the animal much pain. We do not think that "one maggot" in the head of a sheep, would kill it, or occasion it much inconvenience—in fact it is a matter of doubt how far these insects ever affect the health or comfort of the sheep. But we purpose to take up this subject more in detail at a convenient opportunity.

HARD MILKERS.

I have had but little experience with hard milking cows, but have known a small piece of *wheat straw* inserted repeatedly without causing inflammation, as mentioned on p. 166 of this paper; a straw may be softer than a quill, or there might have been "more of good luck than good management." But if long continued, the milk would flow out at all times. I do not recommend this practice except in one case, and that is, when cows' dugs become sore or wounded, the milk may be drawn without difficulty for a short time, till the sore part can heal. The irritation of milking sometimes keeps up a sore a long time; and in one case where a cow's teat was badly torn in a brush-heap, it could have been milked in no other way. As a matter of course, the point of the teat should be well softened with new milk before the straw is inserted; and if carefully done, it may, like medicine a choice of evils, save a cow's udder from *caking*, and prevent the partial ruin of a fine animal.

J. J. T.

REMEDIES FOR DISEASES OF CATTLE.

Colic.—The best remedy is 1 pint of linseed oil, mixed with ½ of laudanum.

Diarrhœa.—Give half an ounce of powdered catechu, and 10 grains of powdered opium, in a little gruel.

Fever.—Bleed; and then if the bowels are constipated, give half a pound of Epsom salts in three pints of water daily, in gruel.

Hoove or Hoven.—Use the elastic tube; as a preventive, let them be well supplied with common salt, and restrained from rapid feeding when first feeding on rank grass or clover.

Mange.—Half a pound of black brimstone, quarter of a pint of turpentine, one pint of train oil. Mix them together, and rub the mixture well in over the affected parts.

Milk Fever or Garget.—Two ounces of brimstone, two ounces of diapente, one ounce of cummin seed powdered, one ounce of powdered nitre. Give this daily in a little gruel, and well rub the udder with a little goose-grease.

Murrain.—Half a pound of salts, two ounces of bruised coriander seed, one ounce of gentian powder; give these in a little water.

Poisons swallowed by oxen are commonly the yew, the water dropwort, and the common and the water hemlock; one and a half pints of linseed oil is the best remedy.

Purge, in Poisoning.—Either one pound of salts in a quart of water gruel, or a pint to a pint and a half of linseed oil.

Sprains.—Embrocation; one ounce of sweet oil, four ounces of spirits of hartshorn, half an ounce of oil of thyme.

Sting of the Adder, or Slow-worm.—Apply immediately strong spirits of hartshorn. For sting of bees, apply chalk or whitening mixed with vinegar.

To take Film from a Horse's Eye.—Blow loaf sugar and a little salt into the inflamed eye, and in most cases it will be relieved. Sassafras buds pounded, and put in water, to stand till it becomes nearly as thick as cream, applied to the eye is an excellent remedy for inflammation.

To relieve Colic in Horses.—Rub spirits of turpentine on the breast of the horse; and if he be drenched with it he will be relieved. Horses should never be put to severe work on a full stomach; more horses are hurt by hard driving after a full feed, than by a full feed after hard driving.—*English Far. Journal.*

Domestic Economy

TO PRESERVE TOMATOES.

Messrs. Editors—As I am very fond of tomatoes, and have a way of preserving them to use, when the season for them is over, a way which I have never seen proposed, although others may have heard of it, I have concluded to send it to you, that you may publish it if you think proper.

Dip the ripe tomatoes in scalding water, peel them, and divide them into two, or if very thick through, three slices, lay them on plates and put them into the oven after the bread is drawn; if a good oven, by the time it is cool, or in 48 hours, they will be perfectly dried; put them into paper bags and keep in a dry place; when wanted for use, dip them into cold water and lay them on a dish to swell, and in a mince or stew, they are almost equal to the fresh fruit. If you wish to make tomato sauce, add a little water to cook them in. They are very good to eat out of hand in the dry state.

Brooklyn, May 6, 1844. A Female Reader.

PRESERVING EGGS.

I have just read the mode of preserving eggs in the last number of the Cultivator, and a lady at my elbow, for whom I have the highest esteem, informs me that she preserves them as follows, and has never taken up a bad egg, after keeping them all winter:—Put a layer of salt in the bottom of a jar, and stick the eggs into the salt, *point downwards*, till a layer of eggs is made, when more salt is put in, and again a layer of eggs, and so on successively till the jar is full. Having often eaten of the eggs, I know the mode to be a good one. T.

Weak Eyes.—Wash the eyes frequently in cold water if they are in the least inclined to weakness.

Make a wash by pouring water over a jar full of rose leaves; let it stand all night, and then strain the water. It will be found excellent for the eyes, and should be used frequently.

A poultice made of rose leaves is good for a stye upon the eye-lids.

If the eyes are very weak, boil a handful of freshly gathered salad in a pint of water, strain it, and apply the liquor to the eyes at intervals. It will be found very soothing. A poultice of boiled salad leaves will also relieve severe pain in the eyes.—*Selected.*

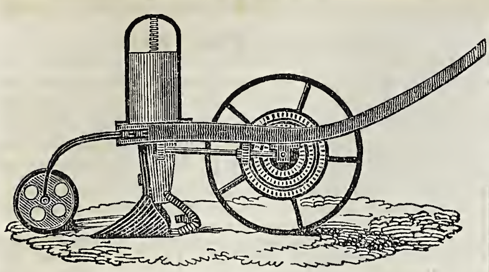
COTTON GIN—SEA ISLAND COTTON.

Mr. Editor—In the May number of the Cultivator for 1844, is an inquiry relating to a Gin for Sea Island cotton. It is asked if a machine differing from the common roller gin, propelled by the foot of the tender, is used by the growers of this article?

To the first qualities of cotton cultivated in South Carolina, no gin is so well adapted as the common foot gin. There have been many constructions of the self-feeding gin propelled by horse power, steam, &c. The fibre of Island Cottons attaching very closely to the seeds, and these gins not removing it without cracking them, they are unsuitable.

Your correspondent must be sensible that the value of long cottons is affected by the manner of its preparation. Unnecessary exposure to the sun, careless handling, &c., are to be avoided. Indeed to dispense with sunning it, has been the desideratum. No possible good can result from it. Still as prepared at present some exposure is unavoidable. A recent invention removes this necessity. A gentleman of the Carolina Sea Island plantations, has constructed a gin for the cleaning of these cottons which renders exposure unnecessary. This machine is moved by the foot of the operator, will clean from forty to sixty pounds per diem. It is on the roller principle.

The merits of this invention were recognized by a Society of Agriculturists in their award of one hundred dollars to the inventor. It will, your correspondent presumes, be patented. The Charleston papers of a subsequent date may furnish your inquirer with more detailed information. *Charleston, S. C. May* 14, 1844.



SEED PLANTER.

In another part of this number, will be found an article on the growing of turneps, in which it is recommended to sow the seed with a machine. We here give a cut of a good machine for this purpose. It was invented by Messrs. T. & J. Lewis, of Boston. It is calculated for planting all kinds of garden seeds, as well as corn. By the use of a set of rotary plates fitted to the hopper, all kinds of seeds in hills or drills, from three inches to six feet apart. Several gentlemen have testified that it is the most perfect machine of the kind they have seen. The price is $15.

SHEARING SHEEP.

In this climate, sheep should not generally be sheared much before June. After having been sheared, they should be protected by shade from the hot sun, and if the weather turns cold, or a storm arises, they should be allowed the shelter of sheds. Three or four days after the sheep are sheared, the *ticks*, if there are any, will all go on to the lambs. Immerse the lambs in a weak decoction of tobacco, and you will thus get rid of them. Take care to wet the skin fairly, but do not keep the lamb too long in the liquid, and take care that it does not get into his ears, eyes or mouth, as it will make him sick. Ticks occasion the sheep much trouble. To relieve themselves from the intolerable itching which the ticks create, the sheep bite and scratch themselves with their teeth, by which much wool is pulled out and wasted, and the sheep, besides, loses flesh rapidly. The mode here mentioned, is the readiest one of extirpating ticks.

A POTATOE DIGGER.

In answer to the inquiry of our correspondent "Viator," we give the following extract from the Report of the Committee on Agricultural Implements, at the late Fair of the American Institute: "A Potatoe Digger, exhibited for a premium by Mr. A. C. Ketchum of Schenectady, N. Y. This machine consists of two parallel sides furnished with handles resembling those of a plow; they are about fifteen inches in width and two feet apart. In front is an iron plate which is intended to penetrate the earth to a depth just below the potatoes required to be dug; behind this plate, near the bottom of the sides before described, are two pullies, one on each side; and on the upper edge of the sides, about three feet behind the others, are two more pullies, over which two endless chains revolve when the machine is in motion. These chains are connected by small iron rods, about two or two and a half inches apart, and parallel to each other. When this machine is put in motion, the earth with the potatoes is passed over the plate on to the parallel iron rods, through which the chief part of the earth first falls, and then follow the potatoes. It is clear that this machine will not act advantageously in a tough, rigid, or very wet soil. Your committee witnessed its operation in such a soil, and were not disappointed at its partial success. Nevertheless they are unanimously convinced, that the principles developed in this machine are such as to merit the encouragement of the Institute, on the ground that it will answer an excellent purpose in a light dry soil; of which Mr. Ketchum presented a satisfactory certificate; and they have no doubt it may be improved so as to operate in other soils."

DURHAM BULLS, DUKE OF WELLINGTON AND METEOR.

AS frequent applications are made by gentlemen at a distance for the use of these animals, to prevent applications by letter this notice is given.

These animals will be let to cows at $10 each; the money in all cases, to be sent with the cows, and paid to the subscriber. Wellington was bred by Thomas Bates, Esq., of England, and out of his prize cow, Oxford, celebrated as a milker. Meteor bred by Mr. Geo. Vail, of Troy, and out of his imported heifer, Duchess, and got by Wellington. Duchess was also bred by Mr. Bates, and got by his celebrated prize bull Duke of Northumberland. These animals are on Mr. Vail's farm, about two miles from Troy, and will be allowed to serve a few cows out of his own herd. Pasture for a short time may be had for cows sent, at the usual prices. Apply to the subscriber on the farm.

April 1, 1844.—3t. A. CLOCKIE.

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to J. OAKLEY,

Oct. 1.—tf. No. 75 Nassau street, New-York.

GREAT SALE OF ELECTORAL SAXON SHEEP.

THE undersigned will sell at vendue the two flocks of *Pure Electoral Saxon Sheep*, belonging to the estate of the late Henry D. Grove, as follows:

1. That at Grainger, Medina co., Ohio, consisting of about 400 sheep, on the farm now occupied by them, on the 30th of *September next.*

2. The home flock, at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th of *October next.*

A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool from which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with of equal fineness. SAM'L LAWRENCE.

Lowel, April 9, 1844."

Terms of sale, cash.—Reference, Sam'l Lawrence, or either of the subscribers.

Buskirk's Bridge, April 20, 1844.

ELIZA W. GROVE,
W. JOSLIN,
my1.—5t. S. A. COOK.

IMPROVED CATTLE, SHEEP, SWINE, &c.

WITH a view of facilitating the diffusion of Improved Breeds of Cattle—of superior fruit-trees and seeds for field-crops, and of improved farming utensils, a register will be kept at the Hall of the State Agricultural Society, in the Old State-House, Albany, for the purpose of recording the names and residences of persons having any articles of the above character to dispose of. Farmers, stock-breeders, fruit-growers and mechanics, who desire to buy or sell improved articles of any kind needed in farming, can have their requests registered by addressing the subscriber, post-paid—no charge being made for the service. It is desirable that the directions shall be, in all cases, as specific as possible in reference to prices, qualities, &c.

The frequent requests for information from persons desirous of improving their stock of cattle, sheep and swine, as well as their crops of wheat and other grains and fruits, induce the belief that a registry of this kind will be found measurably useful in promoting the objects of the State Agricultural Society—as it often happens that farmers are induced to try experiments when improved breeds and seeds can be conveniently obtained.

Various improved breeds of cattle, sheep, swine and fowls, are now registered; as are also sundry improved varieties of wheat—well worthy of attention from farmers desirous of bettering the condition of their stock and crops.

Agricultural, and other journals friendly to the objects of this notice, are requested to give it an insertion.

HENRY O'REILLY, *Rec. Sec. State Ag. Soc.*

CONTENTS OF THIS NUMBER.

Agricultural Soc. and Fairs, 181.
Amusements for Farmer's Boys, 170.
Books—Colman's European Agriculture, 178—Downing's Works, 180—Transactions of the N. Y. S. Ag. Society, 180—The Cattle Doctor, 180.
Bees and Bee-hives, 169, 195.
Cattle—Cure for sore Teats, 175—To remove chaff from eye of, 197—Mad Itch, 197—Hard Milkers, 198—Remedies for various diseases, 198—Stall feeding, 182—Points of a good milch cow, 18—Milch cows, 177—Calves, linseed for, 182.
Commissioner of Patents, report of, 179.
Cultivator for premiums, 169.
Churning, new mode of, 170.
Cane Fly of Grenada, 173.
Caterpillars, to destroy, 197.
Cotton Gin, 198.
Electro-Magnetic Telegraph, 179.
Eggs, to preserve, 198.
Eyes, weak, remedy for, 198.
Frost of May 21, 170—Preservation of corn from, 191.
Farming Capital, 176.
Farming in Connecticut, 176.
Foreign Intelligence, 182.
Farm lands of Pennsylvania, 183.
Farming in Nova Scotia, 186.
Farm Stock, improvement of, 189.
Fruit, early varieties, 195—Culture of the Quince, 195—Talk about, 196—Trees on division lines, 196
Ginger beer, to make, 170.
Grain, fermentation of, 181.
Grafting, chip or scollop, 197.
Horses—Proper feed for and treatment of, 171—Nicking, 174—Cure for Swinney, 197—Remedies for various diseases, 198.
Houses built of unburnt brick, 179.
Hay making, remarks on, 173.
Knowledge is power, 191.
Maple Sugar and Molasses, 169.
Millet, culture of, 182.
Manures—Mineral, 172—Nitrates and Night Soil, 174—Guano, sawdust, 182.
Mr. Pell's Farming, 183.
Michigan, farming in, 177.
Northern Light, notice of, 170.
Nitrates and Nitrogen. 174.
Nutritive properties of various substances, 175.
Names of Animals, 176.
Olive, the culture of, 188.
Portable Grist Mill, 169.
Potatoes, disease of, 171—Machine for digging, 199.
Pigeon Weed or Red Root, 176.
Pumpkins, culture of, 179.
Pea Straw, value of, 182.
Phosphate of Lime, 187.
Produce of a Vermont Farm, 191.
Plows, remarks on, 192.
Peach trees, charcoal for, 197.
Quick Germination of Seeds, 180.
Sheep—Horn on the ear of, 169—Early importation of Merinoes, 176—Experiments in feeding, 181—Management of, 184—Injured by Clover, 192—Large, 182—Shearing, 199.
Sour soils, 190.
Turneps, culture of, 172.
Tomatoes, to preserve, 198.
Wheat crop, prospects of, 170.
Wheat, should be cut early, 180—culture of in the southern counties, 185.
Wool, Philosophy of, 193.
White Daisy, to destroy, 194.

ILLUSTRATIONS.

Saxon Ram, - - - - - - 184
Fibres of wool, magnified, - 193
Seed Planter, - - - - - - 199

☞ ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion.

DICKSON'S IMPROVED RUTA BAGA.

THE subscribers have lately received 2 cwt. of this new variety of Ruta Baga, raised last season by Mr. Dickson of Lancashire, England, and admitted by all the judges at the Agricultural Premium Shows in Great Britain, to be the largest, most solid, nutritious, and clean growing of all the cattle turneps raised in England, where it obtained numerous prizes, and is *confidently* recommended to the farmers of this country as a decided improvement over the ordinary Ruta Baga; price $1,50 per lb. One pound will sow an acre. Also, Betterave Jaune Allemange or German Orange Sugar Beet, a fine quality, and more productive sort than the White Siberia; was tried in our climate last season with complete success, $1 per lb. Also, *White Belgium Green top Carrot* for field culture, superior to all others, both in size and quality, $1,50 per lb. The above are now in season for sowing, and will be warranted as represented, growth 1843.

J. M. THORBURN & Co.
June 1—1t. 15 John-street, New-York.

AGRICULTURAL IMPLEMENTS, &c.

THE undersigned are Agents in this city to sell the following celebrated machines, viz:

Hussey's Premium Corn and Cob Crusher.
Dickey's " Fanning Mill.
Platt's " Portable Grist Mill.
Hovey's Premium Straw Cutter, (Spiral knives.)
Warren's " "
Hull's Stalk and Straw Cutter.

Being proprietors of the now celebrated "Warren's Improved Portable Horse Powers and Threshing Machines," for one, two and four horses, they continue to manufacture and sell them with increased success and satisfaction. Of the two horse machines, one correspondent states, "after a fair trial with barley and wheat with two horses, I can thresh in a clean and thorough manner, at least 30 bush. wheat in 1 hour with comparative ease to the horses; and this day, without driving them at all hard, in sixty minutes, 200 sheaves of wheat of a large size were threshed out in a clean and excellent manner, which is about 15 bushels. The straw, after threshing, is easily bundled; and as it comes out whole and unbroken, I consider these machines on that account important; and as only three hands are required to do the work well, I think the great saving of labor such an item as to make them what is much needed by many of our farmers in this section of country."

The prices for these machines are very low, viz:—two horse power alone, only $50—two horse power and thresher, together, $75—one horse power and thresher, $60—four horse power and thresher, from $100 to $110. Cash payable in this city on delivery. Liberal deductions made on all machines and implements to dealers.

L. BOSTWICK & Co.
June 1—1t. 146 Front street, New-York.

PELTON'S OUTLINE MAPS,

FOR THE USE OF SCHOOLS AND ACADEMIES.

THIS series of Maps, just published, contains all the recent discoveries, the new boundary line of Maine, &c., comprising the Map of the World, North America, United States, Europe, Asia, Africa and South America. Each map containing about forty square feet, is richly colored, varnished and mounted on muslin in the best manner, with a neat roller and moulding. For accuracy they are unsurpassed; and the boldness of the engraving, the richness of coloring, and the distinctness with which both the natural and political divisions of the earth are addressed to the eye, can scarcely fail to attract the attention and produce a distinct and lasting impression upon the mind.

Superintendents, Trustees, Teachers, and all who feel an interest in the subject of education, are respectfully requested to examine the merits of this work.

The above maps are for sale by the subscriber, at his residence, 27 Ferry-street, and at the book store of W. C. Little, Albany.

E. C PORTER,
May 15, 1844—1t. *General Agent for the State of New-York.*

N. B. Schools that are now supplied with Mitchell's Outline Maps will be allowed a fair price in exchange for Pelton's. Should any prefer Mitchell's, they can be supplied with them at a price from $6 to $10 (the usual price being $15) for the whole set; the subscriber having obtained them in exchange for Pelton's. E. C. PORTER.

MADDER SEED.

THE very high prices which the Madder Dyes of France and Holland have attained, are sufficient to excite the attention of our intelligent agriculturists. It is only necessary to take into consideration the immense quantity of Madder consumed in the various manufactories of the United States, to be convinced that the cultivation of this plant would be attended with great advantages, and that it may be undertaken with certainty of profit.

The Madder root can be cultivated in almost every climate. The sands of Silesia, the marshes of Zealand, the arid soils of the South of France and Persia produce it, and of almost equally good quality. It is well known that atmospheric influences make but little impression upon a root, the valuable part of which grows beneath the surface of the soil; and what a powerful guarantee does this circumstance afford to the cultivator of the Madder. It protects him from all varieties of temperature, which so frequently destroy crops of a different nature. For those who cultivate this root, a crop is assured as soon as the seed which they have put into the ground begins to germinate.

A special report upon the cultivation of this plant was laid before the Academy of Sciences at Paris, and a prize awarded to the author. It was written by M. de Gasparin, Peer of France, Member of the Institute, and formerly Minister of the Interior. An extract made from it, which is itself sufficient to instruct all who wish to direct their attention to this new branch of cultivation in this country, will be furnished on application. French Madder Seed, obtained from last year's crops, may be had of the subscribers, who have received a consignment of a considerable quantity. Price $1 per lb., or at reduced rates when a quantity is taken. J. M THORBURN & Co. 15 John-st., N. Y.

June 1—1t.

HUSSEY'S REAPING MACHINES,

GREATLY improved, warranted to cut twenty acres of wheat in a day. The same machine, by a change in some of its parts, will cut hemp; this was satisfactorily proved last year in Kentucky.

Hussey's Corn and Cob Crushers, lately much improved. Price from 25 to 45 dollars, with a set of extra grinders.

Hussey's Corn Shelling and Husking Machines, all manufactured and kept for sale by the subscriber, in Baltimore, Maryland. All other agricultural implements made to order. Baltimore possesses ample facilities for shipping to all ports of the United States. OBED HUSSEY.

TO GENTLEMEN FARMERS.

A YOUNG Scotchman (unmarried) is desirous of obtaining a situation as overseer on a farm. He has received a liberal education, and for several years has devoted his whole attention to the attainment of all the improvements and details of modern husbandry, now practiced with so much success in Scotland. He is also conversant with the management of cattle.

His credentials are of the highest order, and from individuals known to the advertiser. Salary not so much an object as employment in a healthy situation and a comfortable home.

Apply to Watts Sherman, Esq. City Bank, Albany, or to Dr. A. T. Watson, Jr., New York city. 2t

PROUTY & MEARS'

Patent Centre Draught Self-Sharpening Plows,

OF various sizes and prices, from $4,50 to $13 each, with an extra point and share. Wheels will be attached when required. These plows are now believed to be the most perfect plows in use. They are strong, and can be kept in repair at a small expense. Among the premiums which have been received for these plows the following may be named: at Worcester $100; Boston $20, and a gold medal; New-York a gold medal; from the Philadelphia Agricultural Society $10; at Wilmington, Del., first premium; at Govanstown, Md., silver cup; at Prince George, Md., silver spoon. Also Subsoil Plows at 6, 8, 10 and 12 dollars each. For sale wholesale and retail at the Seed and Implement Ware-house, No. 176, Market-st., Philadelphia, by D. O. PROUTY.
2m.

FROM THE STEAM PRESS OF C. VAN BENTHUYSEN & CO

THE CULTIVATOR.

N. ORR sc.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

Vol. I. ALBANY, JULY, 1844. No. 7.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

Seven copies for $5,00—Fifteen copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "The Cultivator," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE FARMER'S MUSEUM,
(*Each no. containing* 16 *pages,*)

Is made up of selections from this paper, and published monthly at 50 cents a year—Fourteen copies for $5,00—Thirty copies for $10.

THE CULTIVATOR.

MONTHLY NOTICES.

Communications have been received since our last, from J. Holmes, S. Tillotson, * * *, John Williams, A Workingman, R. W., L. Durand, C. Rich, H. D. Sewall, J. G. Chambers, James Boyle, W. R. Sanford, J. B. Cook, J. J. T., X. Brutus, J. W., C. H. Tomlinson, J. J. Thomas, D. H. M., Center Draught, A Subscriber, L. Feuchtwanger, J. N. H.

Our thanks are due to the Hon. J. Collamer, M. C., for his speech on wool and woollens—Wm. R. Prince, Esq. for the Flushing Horticultural Society's Address—To Wm. Kenrick, Esq. for a copy of the new edition of his New American Orchadist—To J. R. Bailey, Esq., New-York, for the Leicester (Eng.) Journal, containing the proceedings of the Leicester Agricultural Society.

☞ An article from Prof. Hall, in reference to a communication in our June number, signed "A Practical Farmer," will appear in our next.

☞ The engraver having failed to finish the cut, we are again obliged to defer the communication of "Richmond."

A New Corn-planter.—Dr. Beekman, President of the State Ag. Society, informs us that Mr. James S. Griswold of Spencertown, Col. co., has invented a machine for planting corn, which he has examined, and which he thinks, so far as he can judge without an actual trial, will answer the purpose most admirably. It is simple and easily kept in order.

Portable Grain Mill.–We saw in the street the other day a portable mill, which from the simplicity of its construction, &c., we are inclined to think well worthy of trial. The patentee is Mr. Erastus Arnold of Otego, Otsego co., N. Y. It will grind any kind of grain fine, but is more particularly designed for grinding grain for feeding animals. A principal excellence of the mill, consists in its being so constructed as to avoid heating the meal in grinding. It can be had of A. Wheeler & Brother, Chatham 4 corners, price $30—for a size suitable for the attachment of a horse-power.

Profits of fine fruit.—Three years ago, Samuel Hecox of Lyons, N. Y. sold seven dollars worth of cherries from a tree of moderate size, of the Yellow Spanish; Zerah Burr of Perrinton, N. Y., sold eight dollars worth from two small and very early cherry trees, last summer; and Wm. Otley of Phelps, N. Y. sold ten dollars worth of Greenings (R. Island) from a single tree, which bore forty bushels. On what capital, would a large orchard of such trees pay an annual interest?

"Cottage Villa."—We like the design for a Cottage Villa, sent us by *N. C.* of Washington, very well. The drawings, however, are too large for our columns; and to get them reduced, and the engraving made, would cost about $40—a larger sum than we can afford at present.

"The Silk question settled.—Report of the Proceedings of the National Convention of Silk-Growers and Silk-Manufacturers, held in New-York, Oct. 13, 1843." This is a pamphlet of eighty pages, drawn up under the direction of the American Institute. It comprises a great amount of valuable information in reference to the silk-business in this country, drawn from those persons who are practically engaged in it. There is no reasonable doubt that this is to become a great silk-producing country—especially some portion of the Ohio and Mississippi vallies—where its full success is already demonstrated. This pamphlet ought not only to be in the hands of every silk-grower, but every well-wisher to the country. It was prepared for the press by that indefatigable friend of the silk cause, I. R. Barbour of Oxford, Mass., to whom we are indebted for a copy of the second edition. This edition has been enlarged and improved, and the work stereotyped, so that is now afforded at the low price of 60 copies for $5.—150 for $10—1000 for $70. Orders for it may be addressed, post-paid, to Mr. Barbour, Oxford, Mass.

Plows.—Mr. L. Durand, writing to us on the subject of plows, says:—"Last spring I sent to Boston and obtained one of Prouty & Co's. Centre-Draft sod plows, which we have used in turning over a meadow for corn. Although I had formed a high estimate of these plows, yet I must say "the half had never been told." When there was no stone to interrupt, it would run the whole length of the field without breaking the furrow, and the draft is a third easier, running at the same depth, than any other plow I ever used. The coulter is set into the beam in such a manner that it cuts under on the land-side some two inches, so that each furrow shuts close to the previous one, and the whole being plowed in this manner, makes a perfectly smooth surface. The wheel attached to the end of the beam is of great advantage on a smooth surface, as it assists the draft, and the plow can be guaged to any depth. On stoney and uneven ground the wheel can be taken off. One of the principles of this plow is to run steady, which it will do for some distance without holding. Perhaps on rough and rocky soils, a shorter plow would work better than this, as when thrown out of the ground it would catch quicker than a long one like the Centre-Draft. There are but few soils, however, that this plow cannot be used on to advantage." "The workmanship of these plows is admired by all. Mine being the only one in the town, (and perhaps in the county,) it created quite an excitement with the farmers who have seen it, and it is hoped that others of the kind will soon be in use here." "There are many other kinds of improved plows, among which are Ruggles, Nourse & Mason's, Howard's, &c., and judging from the premiums they have taken, they must be very perfect. In conclusion I would say, that, as there is no implement used in farming more essential than the plow, procure a good one, and never think of plowing sward without a cutter, for you cannot make smooth work without one."

Wind-Mill.—In answer to the inquiry of Mr. J. Wilkinson, inserted in our May No., we will state that we have been shown a model of a wind-mill invented by Mr. George Parker of Corinna, Penobscot co., Maine. It is simple in its construction, and may be readily adapted to various purposes. Mr. Parker states that one can be made for a well, with all necessary apparatus for raising water, the whole cost of which would not exceed twelve dollars.

☞ Mr. J. G. Chambers, of Frederica, Del., gives us some account of the mode of cultivation practiced in his neighborhood. We trust the bad management of which he speaks is not by any means common in Delaware, and that the farmers of every section may soon learn the benefit of a more improved system. Mr. C. says:—"Our county is completely exhausted by bad tillage. The system practiced, has been to clear the land, put in corn, followed by wheat, rye or oats—put the farm into two or three fields, and as soon as the fields are clear of grain, in with the cattle, sheep, hogs, and horses, from the first day of January to the last day of December, until the land is so reduced that there is not more than one-fourth of it will bring wheat at all, and not corn enough to reimburse the tiller. So you must not be surprised at my inquiry in a former communication, how to start right. We cannot get any manure but what we make on the farm, except lime, and that costs too much. It is my opinion that fully one-half of the present inhabitants of the lower part of Delaware, and the eastern shore of Maryland, would greatly better their condition by tilling one half the land they now go over. But make this proposition to a man and he will answer, 'I can scarcely get along now, and if I put myself on one half, I shall starve.'

"We have had a warm, dry spring. Wheat has been much injured by the fly, but is fast reviving by the late rains."

Injury to Trees from Mice.—Mr. Samuel Allen, of Black-Rock, showed us, the other day, several hundred apple and pear stocks which had been so much injured by mice during the winter, that the owner of the nursery in which they stood, had thrown them away—or rather had given them to Mr. A. He had them carefully cut down below where they had been gnawed, grafted them with good scions of choice varieties, and set them out in a good soil. They appeared to be doing well. The suggestion may save trees which are valuable.

Geological Survey.—It is not perhaps very generally known that the legislature lately authorised the sale of copies of the Geological Survey, at the rate of $1 per volume. A share of the books will be sent by the Secretary of State, to the treasurer of each county; and persons who want to secure copies should enter their names with those officers—depositing $8 or $10 at the same time. There will be fourteen or fifteen volumes, when the work is completed—all quartos, and mostly thick volumes. Academies have the prior right of purchasing at $1 per volume within a period of six months from the passage of the law.

To retain the Ammonia of urine.—Dr. Jackson gives in the New-England Farmer, the following as an excellent mode of collecting the salts and gaseous matters of urine. "Take 20 measures of dry peat and one of ground gypsum, and mix well together. Place barrels half full of this mixture in places where urine may be collected, and it will be found that the salts and ammonia of many barrels of urine will be consolidated in this mixture, without giving the slightest odor, or being in any way offensive, for the salts are taken up, and the carbonate of ammonia, formed by decomposing urea, is immediately absorbed. A mixture of peat or swamp muck and gypsum, will also serve to absorb all the disagreeable gases of vaults, which will be converted into valuable fertilizing compounds."

Cattle.—A friend informs us, as an evidence of the emulation created by our Agricultural exhibitions, that among those who are preparing animals and articles in western New-York, he knows one gentleman who is getting ready *ten yoke of cattle* as his contribution in that line towards the next State Fair at Poughkeepsie. The "River counties," and the fine cattle of New England, should be largely and nobly represented on the occasion.

Sheep and Wool.—In a communication from Daniel S. Curtiss to the State Ag. Society, he mentions that he has on his farm in Canaan, Col. co., a flock of sheep which he commenced seventeen years ago, from "good Escurial merino" ewes—using the best Saxon bucks he could get since then. The flock has improved much in quality and quantity—the fleeces averaging, for the last two years, three pounds six ounces; and Mr. C. thinks the clip of this year will exceed that average a couple of ounces. His flock consists mostly of bearing ewes and yearlings, and he keeps no wethers.

☞ Persons having good stock may find their interest in reporting their experience to the State Society.

Harvesting Wheat, &c.—"A Working Man" cautions farmers against harvesting wheat too early. He says—"it is doubtless a good plan to cut grain before it is quite ripe; but farmers would err widely if they should cut it when absolutely in the milk. It would be so damp as to render its preservation difficult." We did not understand the statement alluded to by our correspondent, as representing the yield of the crop at an average of 70 bushels per acre. To have made the experiment of value, the product of an acre or more should have been given. No farmer should adopt any practice he may see detailed in the agricultural papers, or which may be related to him by his neighbors, without considering whether his circumstances, location, soils, &c. render it probable that such practice will be the best for him to pursue. Much, for instance, has of late been said in favor of the use of charcoal as a manure, and where a farmer is so situated that he can make an experiment with it at a trifling expense, it is doubtless worthy of a trial; but the man who should leave his stable manure in his yard, and depend upon charcoal alone, would be guilty of consummate folly. So with a hundred other things, several of which are mentioned by "A Working Man"—the farmer should read, reflect, and decide with judgment and common sense whether the practices of others are suitable for him.

Farming in Tennessee.—Mr. James Holmes of Readyville, Tennessee, gives us some interesting remarks in relation to the state of agriculture, &c., in that State. Mr. H. speaks of the practice of sowing wheat on corn-ground while the corn is standing, and says it is quite common to do so where the weeds and grass are so thick among the corn that it is quite impossible to cover the grain with plows or other implements. The yield in such cases, although the ground is naturally of the best character, is not over twelve bushels per acre—yet, he says, most farmers are satisfied, because they get as much as their neighbors. Indian corn, he thinks, does not yield over 35 bushels per acre, take one year with another, on what is called very good land. But we cannot doubt that agriculture is improving in that section—and with advantages of soil and climate, perhaps not excelled by any State, we trust Tennessee will one day assume the rank to which her natural resources entitle her.

Peach Trees.—Mr. Charles J. Ryan, of Long Island, in a letter to us on the cultivation of peach trees, says he thinks plowing among them is injurious. "The peach," (says he,) "is a tree whose roots have a tendency to run near the surface of the earth. At the end of every years growth, is to be found a number of fibres, which constitute the main support of the tree. If these rootlets or fibres are disturbed by a plow, two or three times in a year, what can be expected but the yellows, or something else as bad?" He observes that he has seen the peach tree survive its twenty-fifth year, producing good crops both in size and quality. The ground was cultivated with different sorts of culinary vegetables. The plow was not used, and care was taken not to injure the roots.

Poudrette.—A correspondent at Long-Island, writes us that he has used poudrette—he manured a piece of corn-land partly with poudrette, (a gill to a hill, and some with a pint to a hill,) and partly with street and stable manure. The crop was best where was put a pint of poudrette to a hill. His neighbor used it for wheat, broadcast, at the rate of 40 bushels to the acre. The crop was so inferior that he has used none since. Now we are not told here how much of the street and stable manure was used to a given extent of land, or what was the relative expense of the manure and poudrette. What we want to know, is, which is the most *profitable* manure—and in order to be able to tell this, those who make experiments, must state the relative expense of the different substances used, for a given extent of land, as well as the product and nett value of the crop from each sort.

Cheese-Press.—In a note to an article on Gloucester cheese, published in our May No., we stated we presumed a beam press was used. Our correspondent "R. M." says, "this is an error—it is a perpendicular press, merely a large stone 3 or 4 hundred weight, the cheeses placed on top of each other, the last always at the bottom, and of course gets the hardest *squeeze*."

Fair at Washington, Miss.—From the Concordia Intelligencer, we learn that the annual spring fair of the Adams county Horticultural, Agricultural, and Botanical Society, took place on the 17th of April. The attendance was very large, numbering several hundred *ladies*. The display of stock, among which were several fine Durhums, showed clearly that there is a spirit of improvement at work. In the department of *Home Manufactures*, were specimens of jeans, plain and colored, hearth-rugs of beautiful colors and texture, fine samples of butter, &c. &c. There was also a respectable show of implements; and taken altogether, the exhibition may be said to have been highly gratifying to the friends of improvement.

J. S. Skinner, Esq. has been appointed to deliver an address before the Agricultural Society of New-Castle county, (Del.) at their next exhibition. Great preparations, we learn, are being made to render the exhibition superior to any former one held by that society.

Tennessee Agriculturist.—Mr. Fanning, the former editor of this paper, being engaged in the management of Franklin College, Mr. Charles Foster, formerly one of the editors of the Western Farmer and Gardener, takes charge of the Agriculturist. In addition to other high qualifications, Mr. Foster is one of the best draughtsmen in the country, and it is proposed to illustrate each number of the Agriculturist with engravings from his pencil, of country residences, animals, fruits, plants, flowers, &c.—a sample of which appears in the June No.—viz. a view of Dr. Shelby's residence, and a portrait of one of Mr. Mark R. Cockril's Saxony bucks, both of which are well executed.

Strawberries winter killed.—The Boston Cultivator states the past winter has been very destructive to strawberries in that vicinity. The Early Virginia (a celebrated early kind,) Hovey's Seedling, the Wood, and Methven Castle, are in some gardens nearly all killed; while the Scarlet, or Royal Scarlet, separated from the other kinds only by a path, and under the same management, are all alive and flourishing. Young plants, it is said, have endured the cold with less injury than old ones. The Royal Scarlet, which it is said has escaped injury, is spoken of as a large, valuable, and productive variety.

Massachusetts Society for the Promotion of Agriculture.—At a meeting of this highly useful society, the oldest of the kind in the country, recently held in Boston, the following gentlemen were elected officers for the ensuing year:—John Wells, President; Peter C. Brooks, 1st Vice-President; John C. Gray, 2d do.; Abbott Lawrence, Rec. Sec.; Benjamin Guild, Assistant do.; Henry Codman, Treasurer, and Josiah Quincy, jr., Cor. Sec'y. Daniel Webster, J. C. Warren, E. Phinney, F. C. Lowell, David Sears, and W. P. Mason, Trustees.

Agricultural Education.—The late State Convention of Common School Superintendents appointed a committee to co-operate with a committee of the State Agricultural Society, for promoting the introduction of agricultural books and studies into the common schools. The Hon. John Greig of Canandaigua, is the chairman of the committee on behalf of the State Society; and we perceive the name of Gov. Seward and Lieutenant Governor Dickinson among his associates. This committee will meet at Poughkeepsie, on the second Thursday (11th day) of July. Writers on agriculture, and other friends of the the cause, may promote the object by communicating their views on the subject—in reference to the preparation of agricultural works, as well as the introduction of the matter in school exercises—under cover to the care of the Recording Secretary at Albany. The school superintendents can incidentally render an immensity of service to the cause of agriculture, by bearing its importance steadily in mind when discharging their duties among the ten thousand school districts of the State.

The Season in Ohio.—Extract of a letter from a gentleman at Zanesville, dated Juue 12:—"The season here has been remarkably favorable to vegetation, and there is much heavy wheat in the country, though there are fields greatly injured by the fly. The fruit crop is fair, and the prospect in Ohio, taken all in all, looks like any thing but starvation."

Moles.—Many of your readers are no doubt desirous of knowing the best mode of destroying moles. The following, I have tried most successfully. Raise the skin of the heart, or soft part, of a kernel of corn with a penknife, scoop out a portion of the soft part, and fill up the vacancy with wet arsenic. Place a few of these in the tracks of the mole, and I assert his ravages are at an end.

J. Boyle.

☞ The drawing alluded to by Mr. B., was too imoerfect to admit of our using it.

Domestic Industry.—The manufacturers, as well as the farmers "down east," will probably, be represented by fair specimens of their products, at the State Fair in Poughkeepsie, as well as at the several of the New-England Fairs and Cattle-Shows. We have seen a letter from Samuel Lawrence, Esq. who is largely connected in business at Boston and Lowell, saying that an assortment of goods from his establishment will be exhibited at Poughkeepsie—about fifty pieces in all. The well known fabrics of the Middlesex Mills, of which Mr. S. is agent, is a sufficient guarantee that the exhibition will be alike creditable to the enterprising proprietors and to the country. Manufacturers of all sorts of useful goods, in New-England, as well as in this state, may find the Agricultural Fairs advantageous opportunities for exhiniting the varied products of their factories and workshops—those products particularly which anywise concoucern the the comfort or profit of the farming commuity.

To make yellow butter in winter.—Put in yolk of eggs just before the butter comes, near the termination of the churning. This has been repeatedly tried, and it makes very fine sweet butter. It is kept by many as a great secret, but its great value requires publicity. B.

Sturgeon.—Our friend Botts, of the Southern Planter says one of his friends gives the following recipe for cooking sturgeon:—"Slice the white part of a sturgeon, and pour upon it boiling water to extract the oil, then boil it hard until nearly done; put it into a stew-pan with a little water, flour, cream, butter, pepper and salt, or catsup, if you like it, and stew it well."

Bachelor's Pudding.—In the same paper, "Oberlin" gives the following for making Bachelor's pudding. "Break, or grate ripe bread into new milk, and permit it to get soft before adding a good portion of boiled rice, some eggs, butter, and other condiments the taste may dictate, and sweeten with molasses."

LETTER FROM EUROPE.

We are happy to present our readers with the following interesting letter from Mr. J. P. Norton, of whose departure from this country, we spoke in our May number; and they will be pleased to learn that it is the first of a series we have reason to expect from him during his stay in Europe.

Durham, England, June 1, 1844.

Messrs. Editors:—The sight of your paper in a foreign land, has afforded me much pleasure, and I am happy to say that it does not suffer by comparison with English periodicals devoted to the same subject. It has seemed to me that a slight sketch of my first impressions of the country might perhaps be interesting to your readers. With some allowance for exaggeration after twenty-five days at sea, the country about Liverpool on the 12th of May, seemed to me perfectly charming. The grass was of the most brilliant green; the wheat in some fields was nearly a foot in height; the plowed fields were neat as gardens; trees were scattered about in sufficient numbers to vary the landscape, and the neatly trimmed hedges, in many places just bursting into bloom, completed a picture of cultivation such as I hope we shall yet boast of in America. Since that time, I have learned that all England is not in such a state of perfection. Some of the fields in the coal districts have reminded me strongly of like ones at home, always excepting the hedges, which, even if ill-trimmed, give a certain air to a field that no crooked or stump fence can do. It is much to be desired that this method of fencing may be introduced among us, though hardly to be expected where wood and stone are so abundant as in our eastern states.

The country about the city of Durham, is not as fine nor the farming as good as in many parts of England. Coal is the great production of this region, and the tall chimnies of the collieries, surrounded by black machinery for hoisting, and huge heaps of refuse coal, meet the eye in every direction. One of these pits near Sunderland is worked at the depth of about 1500 ft. below the level of the sea. As you go north to Newcastle and Shields, about fourteen miles from this place, their number increases, till, on the banks of the Tyne, the volumes of smoke poured from their chimnies, joined with that from many alkali works and furnaces, overspreads the whole country and fills the air with the odor of bituminous coal.

In the course of a visit to Hexam, Northumberland, I saw some excellent farms in the beautiful valley of Tyne. One of the best was that of Mr. Harbottle, near Hexam. He practices a five year rotation; two years in clover, cutting the first and feeding to sheep or cattle the second year; barley or oats succeed, then turneps, carrots and potatoes, or other roots, and finally wheat. He had twenty-two acres of Swedish turneps in the ground, and expected to have nearly the same quantity of white turneps and potatoes. There must have been about sixty acres of wheat, oats and barley. He keeps 12 or 14 horses at work constantly, and does his thrashing by steam. He showed a sample of last years wheat pulled from the stack, a bushel of which weighed 66 lbs. One thing is to be remarked as to his plowing; the drills for potatoes or turneps are run diagonally across the field; the plough next year is not run at right angles directly across the ridges, but at a very obtuse angle, thereby mixing the manure in each drill very completely with the soil, and causing the succeeding grain crop to come up evenly. Another advantage occurred to me, which was that in diagonal plowing the team can go nearer to the fence. The crops in this region are now suffering much from drouth, as there has been no rain for nearly four weeks, more than very slight showers.

The city of Durham is chiefly remarkable for its Cathedral and Castle, the latter now the seat of the University of Durham; the former is a truly noble building, and most interesting for its antiquity. It was founded in 1094; just 750 years ago, and its stones are worn by the feet of warriors, nobles, priests and kings, who in olden times flocked to St. Cuthbert's shrine. It looks as if another seven hundred years might pass on, without sapping its massive walls. The great central tower is 214 feet in height; the length of the chancel within, is 411 feet, and of the nave 200. Some of the pillars are 23 feet in circumference.

My next letter will be from Edinburgh, where I hope soon to be established, in the laboratory of Prof. Johnston, accomplishing the object of my visit to this country, a thorough knowledge of analytical chemistry as applied to agriculture. In compliance with your request, I shall be very happy to give you from time to time, a report of our proceedings there, and of such practical observations as I may make in excursions through the country.

John P. Norton.

STATE OF AGRICULTURE IN IRELAND.

An impression seems to prevail in this country that the distresses of Ireland, arise from over population—in other words, that the soil of that island does not, and cannot yield sufficient subsistence for the number of its inhabitants. We are satisfied that this is not the case. The miseries of the Irish people arise not from a deficiency of agricultural products, but from the inequality of their distribution. An article in the last number of the Journal of the Royal Agricultural Society, on the past and present condition of the agriculture of Ireland, by William Blacker, Esq., contains many very important facts. These facts are of the more consequence, as many of them have a direct bearing on the interests of our own country.

Mr. Blacker contrasts the present condition of Ireland with what it was about the commencement of the present century, or at the time when the celebrated Arthur Young made his tour through that country. From this it appears, that though population has greatly increased, yet production has increased in a greater ratio, and upon the whole, the condition of the people has been much ameliorated. In fact the modern agricultural improvements in some parts of Ireland, are quite astonishing. At the time of Mr. Young's tour, none of the present means of improvement—such as draining, house-feeding of stock, turneps, clover, and the cultivated grasses—were practiced; and worse management than generally prevailed, could hardly be imagined.

"The consequences," says Mr. B. "attending such a state of things could not be otherwise than most disastrous. Although the country was not one-third peopled, the miserable inhabitants year after year were exposed to all the horrors of famine, followed too generally by disease; and even in favorable seasons they were most commonly under the necessity of importing food. Contrasting the then state of Ireland, as described by Young, with its altered condition in the present day, when it maintains three times the number of inhabitants, besides exporting more food than the whole of the island produced in those times; and comparing also the general state of its present population with what it was then, they being beyond all contradiction better fed, better clothed, and better housed now than was then the case; it seems impossible to deny that, as population increases, the condition of society improves, notwithstanding all that may be said to the contrary: and the truth of this not only appears on a comparison of the general state of the country now with what it was many years back, but it also appears by a comparison between the state of the east and west of the kingdom at this present moment. In the west and south-west the population is small, and exhibits every appearance of poverty and destitution; whereas in the east and north-east, where the population is great, they are *comparatively* in the enjoyment of all the comforts of life. One cannot help being struck with the positive contradiction which these simple facts give to all the assertions of those who argue that the misery to be met with in Ireland is brought on by *over* population. The misery is to be met with, generally speaking, where the population is thinnest; and the least of it is to be seen where the population is greatest. The question may naturally here be asked—How can this be accounted for? The answer is plain. The misery is occasioned not by the excess of the population in proportion to the capabilities of the soil, but to the deficiency of employment."

Mr. Blacker next makes some very proper remarks on the duty of governments to encourage the employment of its own population.

The exports of grain from Ireland for several years past, have been great—the average for the last thirteen years amounting to more than one half of all the imports into Great Britain. This will be seen by the following table.

An account of the Corn, Grain, and Flour, imported into Great Britain in each year, from 1st Jan. 1830 *to* 1843.*

Year.	Imported from Ireland: Qrs.	Total Imported: Qrs.
1830	2,215,521	4,650,567
1831	2,429,182	5,971,182
1832	2,990,767	3,788,665
1833	2,737,441	3,191,710
1834	2,792,658	3,351,558
1835	2,679,438	3,000,643
1836	2,958,272	3,601,865
1837	1,030,293	4,356,223
1838	3,474,302	5,009,031
1839	2,243,151	6,831,249
1840	2,327,782	6,318,304
1841	2,856,525	6,542,406
1842	2,083,600	5,806,697
1843	2,721,400	4,167,823
	35·639·332	66,588,023

Ireland contains about fifteen millions of acres under cultivation—only four millions more than the state of New-York—yet Ireland, with a population of about ten millions, exports annually more grain than the whole territory of the United States.

From government surveys lately made in Ireland, it is stated there is yet remaining five millions of acres, unimproved, capable of profitable cultivation. It is also stated there are fifteen millions of acres of a similar character in England and Scotland; so that it cannot be supposed that those countries, notwithstanding the vast advances they have lately made in agricultural improvement, are as yet anywhere near the highest limit of production. Is it not, therefore, unwise to look to England with the expectation of finding there a market for our surplus farm products?

NOTES OF A WESTERN TOUR.

We have received from Mr. JAMES WILEY, of Bedford, Pa., some account of a journey from Pittsburgh by way of the Ohio and Mississippi rivers to St. Louis, thence to Chicago, and by way of the lakes to Cleveland, &c. Want of space prevents our giving the communication in detail.

In speaking of Cincinnati, the writer says it is one of the prettiest and most orderly cities he ever saw. The draymen, butchers, &c. are better dressed than the same class he has seen anywhere else. "In short," he says, "everybody and everything, even the hogs and dogs, about the city, looked well." He saw no indications of *mobs* or anything of the kind. At Louisville, he saw the celebrated Kentucky giant, whom he says is "*a very quiet-looking man*"—a description which we have no doubt is quite as graphical as that given of the same personage by Charles Dickens. He found St. Louis a very flourishing place, and he thinks it is destined to become one of the largest cities in the world; but the appearance of the city is not agreeable, and the market places, &c. were very dirty, and in respect to order and neatness, contrasts very unfavorably with Cincinnati. The American bottom, opposite St. Louis, on the Illinois side of the Mississippi, is spoken of as being "the finest land in the world, and the most unhealthy. He says there are many people settling there, but if the land was ten times as good, he would not go to "this *death pot*."

Of Alton, Mr. W. says he hopes those who have occasion to mention it, "will remember the mob-monument raised to its disgrace."

About Jacksonville, he saw many good things. "Good churches, good schools, good farms, and some good Durham cattle. From Jacksonville to Springfield, is a beautiful country—much open prairie, and thousands of horses, cattle, mules, &c., feeding." Being in the neighborhood of Springfield the day before the cattle show holden at that place, he saw some good cattle and sheep. Springfield is described as being located in a beautiful prairie, the land being excellent, &c. The country on the Sangamon river is spoken of as being "settled by persons apparently not much accustomed to agriculture—at least on any improved system." The farmers have not yet introduced the cultivated grasses, except in a few instances on a very small scale. He called on one farmer who had resided there sixteen years. He had a few yards of blue grass in front of his house, but he was not much disposed to encourage the growth of this "new thing."

Peoria is mentioned as a beautiful place, rapidly improving. &c. The country on the Rock and Fox rivers, is spoken of as being very fine—good for sheep, &c. Chicago is represented as a very thriving city, doing a great business. It is the depot for an immense wheat-growing region. The husbandry through a considerable portion of Illinois is described as being very bad. The weeds were growing, says Mr. W., as "if they were contending for a premium." But on the whole he thinks there is a spirit of improvement being diffused, which will ultimately be productive of much good.

KENRICK'S AMERICAN ORCHARDIST.

The great demand for this standard work, having nearly exhausted the former editions, a new one, making the *seventh*, has been lately issued. We have no doubt that Mr. Kenrick's work is in many respects superior to any one of the kind ever published in this country, and in fact, none has been received with such favor. Mr. K. informs us that the present edition has been revised with very particular care, and many additions made to the former editions. In 1840-41-42, Mr. K. visited France and England, where he collected much information which he has here given. To the list of fruits which was before very large, he has added several new kinds which have been lately proved at the garden of the London Horticultural Society, and elsewhere in England and in France. The appendix contains excellent remarks on vegetables, ornamental trees, shrubs and flowers, &c. Published by Otis, Broaders & Co., Boston.

MACHINE FOR DRAINING.

Mr. A. Hodge, jr., of New Orleans, inquires whether there is any "Yankee invention more convenint and less weighty" than the English drain plows. We are not informed of any implement invented for this puprose in this country, excepting the one spoken of in the late report of the Commissioner of Patents referred to in our June number, p. 179. Perhaps Mr. Ellsworth may be in possession of some particulars in relation to the machine which are not made public in his report. We find descriptions of several machines or draining plows in various English works, but they all require great strength of team to work them, and we are unable to say whether they would in this country be found useful. If any of our correspondents can throw any light on the subject of Mr. H.'s inquiry, we shall feel obliged.

The *mummy* or Egyptian wheat, has proved unprofitable, as far as we know. It does not become readily acclimated, and at best it makes only an inferior flour. It is of the *many headed* variety (*Triticum compostium,*) as is all the wheat we have known brought from Egypt. The *wild-goose* wheat, and the "*California*," which at the south attracted so much attention a few years ago, are merely different names for the same variety.

Onondaga County Cattle Show at Syracuse, on the 2d and 3d days of October next

---

* *Note.* A *quarter* is 8 bushels, grain measure. The *Imperial* bushel of wheat is 70 pounds—the standard bushel of wheat in this country, is 60 pounds—thus, a *quarter* of wheat is 560 pounds, or 9 and a third American bushels.

HILLING POTATOES.

Several years ago we made an experiment to ascertain whether hilling potatoes was of any advantage. We left two rows with the ground level—those on each side were hilled in the usual mode. At harvest time it was found by careful measurement, that the two rows left level, yielded most—how much most we have forgotten. Since that time we never "hill up" potatoes, unless the ground is too wet and we want to turn off the water. An inch or two of earth over the tubers will keep the sun from injuring them, and that is all that is needed. We see some one who signs "An Old Farmer," gives the result of an experiment of this nature in the N. E. Farmer. He left two rows in the piece unhilled—or only gave them a little earth at the first hoeing. At harvest he measured the product of the two unhilled rows, as well as that of two rows on each side, and the unhilled rows gave *five pecks* more (and larger potatoes) than either two of the other rows. He argues (and reasonably) that by hilling we deprive the crop of the benefits of moisture. He says potatoes need a mellow soil, but this cannot be well secured by increasing the size of the hill *after* planting. A correspondent of the London Gardener's Chronicle says, "moulding up potatoes retards the formation of the tubers." The editor of that publication doubts the conclusion of his correspondent, and says—"Potatoes are stunted and swollen branches proceeding from the sides of the main stems, which alone rise into the air, clothe themselves with leaves, and so convey their food to their underground progeny. * * * Now the quantity of lateral branches will be in proportion to the quantity of earth through which the stem passes; tubers are lateral branches, and therefore the quantity of tubers will be regulated by the same cause. Moulding up is a contrivance to increase the quantity of earth through which the main stems have to pass, and should, therefore, according to the theory, be a beneficial operation."

Now we do not understand how it is that "potatoes are stunted and swollen branches," &c. We believe that potatoes proceed from a class of roots or stems entirely different from others, and designed particularly for the production of tubers. In the next place the editor contends that as "moulding up" increases the number of lateral branches, the quantity of potatoes would also be increased by the same means. Our experience has taught us a somewhat different conclusion. We admit that the large quantity of earth through which the main stem passes has a tendency to increase the number of lateral branches, but we have *not* found this increase of branches or roots accompanied by a corresponding increase in the weight or yield of potatoes. In other words, we have found earthing or "moulding" up, to increase the number of roots, and the *number* of tubers, but not the yield either in weight or measure, because they were "*small* potatoes." We have also noticed that those varieties which throw out a great number of lateral branches, produce many tubers in number, but few in the aggregate weight.

The editor speaks of potatoes being produced in the dark which formed all over the branches, of which he gives an engraving. We have often seen potatoes produced in this way—have found them very numerous, but never knew any but small sized ones grown in such circumstances.

CARBON CONSUMED BY ANIMALS.

Most farmers have noticed the greater quantity of food required by animals when exposed to a cold atmosphere, than when placed in one of moderate temperature. The true reason for this is, that *carbon* is as necessary for the support of animal life and heat, as for the support of flame, and the quantity of carbonaceous food which the animals require, will always be in proportion to the degree of cold to which they are exposed. We find this principle well illustrated in some remarks made by Mr. Nesbit in a late speech before an agricultural association in England. The same amount of heat is said to be generated by the combustion of a pound of charcoal, whether it is rapidly consumed in oxygen, or by ordinary burning, as in the lungs of animals. A pound of charcoal if made to give off an intense heat, might be consumed in one minute, while in the breathing of an animal a pound of charcoal would generally be consumed in twenty-four hours. From this it is easy to understand how the Esquimaux are able to eat eight or ten pounds of whale blubber, and drink a gallon or two of train-oil per day. A large amount of carbon is consumed in that cold climate in keeping up the animal heat of the body, which must be supplied by large quantities of food which contains carbon. In a warm climate proportionably less carbon is consumed in keeping up the animal heat, and less carbonaceous food is required. These facts should teach the necessity of keeping animals warm in winter.

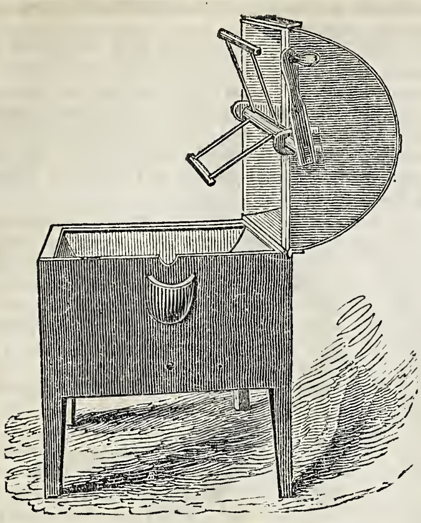
INSECT IN GRASS.

At one of the agricultural meetings in Albany, last winter, Hon. Mr. Rhoades observed that an insect similar to that found in wheat, sometimes called the *weevil*, had been seen in grass. We have this season discovered in the spear-grass, or Kentucky blue-grass, (*Poa pratensis*,) what we suppose to be the insect referred to. It is not, however, of the same class as the wheat insect—it more nearly resembles in character the *spindle worm* of Indian corn, classed by Dr. Harris under the name *Nonagriadæ*. The insect, in the larvæ state, may be found around the stem of the grass above the upper joint. It is so small that it is not readily seen by the naked eye, except when nearly full grown. We have not yet discovered it in the perfect or fly state. The period of its attack on the grass, is soon after the head makes its appearance, and (judging from what we have this year seen) continues but a few days—their ravages having ceased before the grass comes into bloom. The effects of the insect are easily seen by the dead grass. The egg from which it proceeds, seems to be deposited between the stem and leaf, (or sheath,) and the larvæ preys on the juices and tender part of the stem, which soon causes it to die and turn white down to the first joint. We have noticed on some fields where the kind of grass mentioned prevails, that nearly all the heads were dead. We have not seen it on any other kinds of grass than that mentioned. We should not suppose that it would occasion much damage, as it only attacks the stalk in the manner described, and the variety of grass to which it seems to be confined is chiefly valued for its *leaves*, which are not injured, and probably not lessened in quantity.

Berkshire and Sand-Hill Hogs.—A writer in the Southern Planter, objects to the Berkshire, and what he calls "*No-bone*" (China) hogs, that they have too short legs, too large a body, and too little ability to get their food. He says, "give me something of the South Carolina Sand-Hill hog, a hearing ear, (at least in acorn time,) a light body and long legs, then a good range, and I will ensure meat enough."

These objections remind us of a similar one we heard from a large farmer at the west. Neighbor C. was recommending to neighbor A., the improved breeds of swine. Their propensity to fatten, the fine quality of their flesh and their quiet dispositions, were highly extolled. A. listened to the eulogium for a while with silent attention, when accosting C., he said, "but can your new breed run well?" "Oh no," said C., "they can hardly run at all." "Well then," rejoined A., "I don't want any of 'em, for I intend my hogs shall get their living *somehow, and I would'nt give a cent for one that could'nt out-run a dog*." To those farmers who want hogs to "cut their own fodder," we say, take the "long legs and light body." Then "with a good range," (and they will scarcely permit you to set bounds to their "range,") you may have plenty of hogs and a *little* "*meat*" (not *pork*,) provided you can catch it.

Damp Beds and catching cold.—Visitors are often lodged in beds not in common use, and which have as a consequence, contracted a dampness, causing dangerous colds. To prevent completely this disaster, spread a well aired blanket on the bed-tick, and the sheets over it.



GALT'S CHURN.

This is one of the best churns ever made. Any quantity of butter, from one pound to twenty-five pounds, can be churned at one time. It works easily, without wasting any cream, is easily cleaned, is very durable, and brings the butter in a short time.

Manufactured by R. Sinclair, Jr. & Co., Baltimore, and also by the principal implement establishments at Boston.

EFFECT OF DROUTH ON THE MATURITY OF PLANTS.

The last year was remarkable for its unusual high temperature, particularly the months of August and September, and scarcely less so for the want of rain which had been experienced in many sections of the country. The spring months were cold and vegetation backward. Planting was of course late, and the planted crops did not come forward as rapidly as seemed necessary to ensure perfection. This was especially the case with corn and potatoes. In July the temperature changed: from being wet and cool, it became dry and hot, and in some places this dryness became a drouth of great severity. During the early part of the hot weather, planted crops grew with rapidity, but the want of rain soon checked the growth, and for a month or more the plants seemed nearly stationary. In some places the potato stopped growing, the vine died, and the appearance of a mature plant was exhibited; but the root showed that the suspension of the growth, had at the same time checked the approach to maturity, and though the vine might be dry and dead, the root remained green and immature. We had a field of some twenty acres of corn, that was just beginning to silk at the time the drouth set in most severely. For nearly a month there was not a day, except one or two on which slight showers occurred, in which the leaves of the corn did not curl from the heat more or less. During this time ears set, the corn silked, but the kernel did not form, and more than double the usual time elapsed between the throwing out of the silk and the having ears fit for roasting, that usually does. It became evident that unless the month of September was unusually favorable the crop of corn would be small, and its safety from frost much endangered. Fortunately our fears in that respect were unfounded; that month was favorable, our corn the first of October was untouched by the frost, and an average crop of full sound corn was secured.

From our experience and observation, however, we are convinced that plants make very little approach to maturity or ripening, no matter what may be the temperature, unless a plentiful supply of water be present at the same time. Heat and moisture are the indispensable conditions of the growth and maturity of plants, and either, alone, will be found ineffectual or destructive. The rains of September aided the ripening of potatoes where the vines had not dried up; but where this took place during the drouth, they proved watery and immature. We are certain the ripening of corn and potatoes was delayed some three weeks at least, on our farm by the drouth; and nothing but the favorable weather of September, and their exemption from the frosts so general in the northern states, gave them their chance for maturity.

Since the above was written, we have noticed a paper from a correspondent of an eastern paper, in which the same views are taken of this matter that we have expressed. The writer says,—"My early potatoes which were planted and up in good season, were not riper, if so ripe, Aug. 30, as they have generally averaged in favorable seasons at the 30th of July. My corn was likewise nearly a month behind its growth, and so of most other vegetables we harvest in the fall, and it appears that vegetables which do not require but four months in favorable seasons to come to maturity, will this year require nearly five; and it is not because we have not had a sufficiency of sunshine and heat, for I think we have had a fair average compared with seasons in past years."

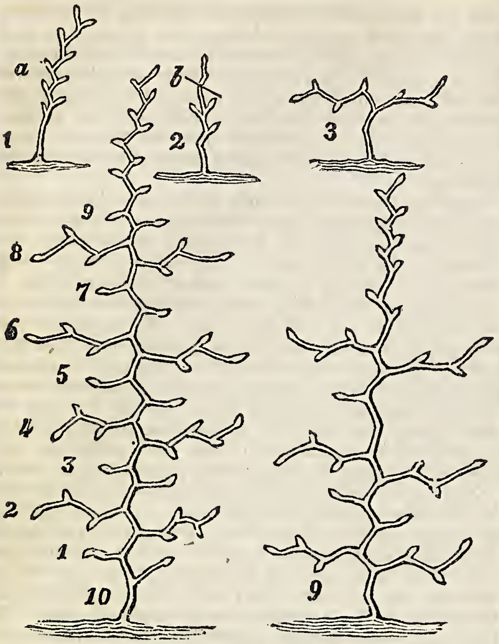
Next to corn and potatoes, apples appeared to be stopped in their growth and their maturity more checked than other plants or fruits; and we have rarely witnessed more rapid changes than occurred in what should have been early fruits, such as the Sweet Bough and White Harvest apples, where after the great heat and drouth, the earth was again saturated with water by rain. We have seen some curious results from this suspension of growth in the potato. Where rains supervened, shoots put out from the tubers of those vines longest dead, as they would from roots planted in the spring.

EARLY SEEDLING PEARS.

There is an impression abroad which has had a great tendency to prevent the general introduction of that excellent fruit, the pear, and that is, that the man who plants the young tree, must be fortunate indeed if he lives to partake of the fruit. That this impression is a mistaken one is evident from the experiments of Van Mons, who has grown thousands if not millions of pears from the seed to fruiting in from six to eight years, and in many instances in even much less time. His object has been by cross impregnation to produce new and finer varieties, and early fruiting was essential to the success of this plan. The result is well known to every orchardist and fruit grower in the country, in the rich fruits he has produced, and distributed to every part of the world. We find in the New Gen. Farmer, a proof that such early fruiting is not confined to the old world. At the last Agricultural Fair at Canandaigua, a basket of beautiful pears were exhibited, *raised from seed, and the tree only four years old.* Four years since the grower, John Crofoot, took a fine pear of the variety called Catherine, and planted it entire in a rich spot in his garden. Several young trees came up from it, and grew vigorously. Taking some leaves from the parent fruit, he selected the shoot most resembling the original, and pulled the others. Stimulating manures were applied to the tree, and it grew vigorously. Last year, being four years old, and about six feet high, it blossomed finely, and produced about two dozen of beautiful pears, more resembling the St. Germains than the Caterine, and equal if not superior to the latter fruit. This is certainly a remarkable instance of precocity in a pear tree, and should induce further attempts at this kind of culture.

CROPS IN N. CAROLINA.—From a letter to the editors, dated Red House, May 25—" The crops of corn, wheat and oats, were never more promising. We have had the earliest spring ever known in this region of country. This section is adapted to the culture of corn, wheat, oats, cotton and tobacco. The corn and wheat crops are very forward. Some of our farmers are now preparing to cut wheat, and will be in the midst of harvest next week."

TO PRESERVE IRON FROM RUST.—Heat the iron to redness, just perceptible in the dark, then cool it in tallow.



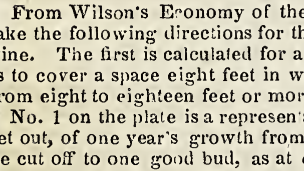
GRAPE CULTURE.

From Wilson's Economy of the Kitchen Garden, we take the following directions for the training of the grape vine. The first is calculated for a scale where the plant is to cover a space eight feet in width, and of any height from eight to eighteen feet or more.

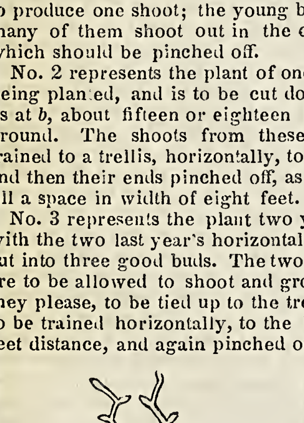
No. 1 on the plate is a represen'ation of the plant when set out, of one year's growth from the cutting, and is to be cut off to one good bud, as at *a*. The lower bud is seldom counted, and only the upper bud is to be allowed to produce one shoot; the young buds on this shoot will many of them shoot out in the course of the summer which should be pinched off.

No. 2 represents the plant of one shoot, one year after being planted, and is to be cut down to two good buds, as at *b*, about fifteen or eighteen inches high from the ground. The shoots from these two buds are to be trained to a trellis, horizontally, to a distance of four feet, and then their ends pinched off, as we intend the plant to fill a space in width of eight feet.

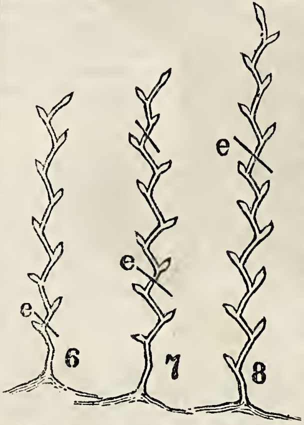
No. 3 represents the plant two years after setting out, with the two last year's horizontal shoots as they must be cut into three good buds. The two buds next to the stem, are to be allowed to shoot and grow upright as high as they please, to be tied up to the trellis, and the end buds to be trained horizontally, to the limits of three or four feet distance, and again pinched off.



No. 4 represents the plant three years from setting out with its two last year's upright shoots, as they must be cut down to four good buds, which are this year to bear fruit, and the horizontal cut into three good buds; their shoots are all to be trained upright, which will complete the head of your vine with eight branches at about one foot apart.



No. 5 represents the vine four years after setting out, with the two cen're branches that bore fruit last year, as they must be cut down near to their origin. The two next cut down to four buds for bearing fruit. The next two to one good bud, for producing one good wood shoot. The next and last two, to three buds for bearing fruit. Its regular culture, afterwards, is to cut four of the branches low down, and to leave four longer to bear fruit alternately, always allowing the branches that bear fruit the one year, to be cut down, for recovering a good shoot again for bearing the next. The other mode of training, is called horizontal training, but may be extended to any height or distance, so as you retain the leading shoot, or it may be confined to a very low space by cutting it off.



No. 6 represents the plant when set out, the same age as the other; to be cut also to one good bud, as at *e*. This bud to be allowed to produce one good shoot.

No. 7 represents the plant one year after setting out, to be cut down to three good buds as at *e*. The shoot from the upper one of which is to be trained upright, and the two lower ones to be trained horizontally.

No. 8 represents the plant two years from setting out, the leading shoot of which is to be cut down to nine buds as at *e*. The upper bud to be allowed to shoot upright, and all the others horizontally; four feet from each side. The two last year's horizontal, cut as they must be to one good bud, its shoots to be trained as it was last year.

No. 9 represents the plant three years after setting out, with its branches cut as they must be. The two lower ones to three good buds for bearing fruit. The next two cut to one good bud for wood. The next two, to three for fruit. The next two, to one. The other two to three, and the leading one again to nine. The upper bud to have its shoots continue upright—the other eight horizontally.

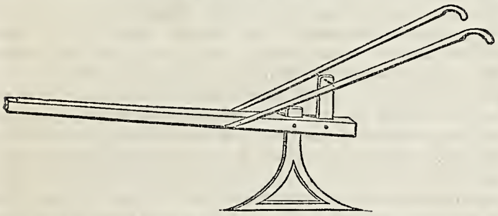
No. 10 represents the plant four years from setting out, with its branches cut as they must be. The lower two, to one good bud; the second two, to three buds; the third two to one; the fourth two to three; the fifth two to one: the sixth two to three; the seventh two to one; the eighth two to three; the ninth two to one, and the leading shoot to nine buds, all to be managed in the same way as last year. And in this way you may continue your plant as far as there is room: when that is terminated, cut off your leading shoot, and regulate all the horizontal branches so that they may bear fruit and wood alternately to the end of the grape vine's existence.

It may be necessary to observe, that in the first mode described for training the vine, the two horizontal branches or arms to support the upright shoots, are intended to extend four feet from each side of the main stem, and on each of them are to be selected four upright branches which will make them about a foot apart. It will be necessary to rub off any intermediate buds, so as to regulate them, to be placed at proportionate distances. And after they are once cut down to one bud, the next year's cutting down would be a joint higher, and this may safely be allowed for a year or two; bnt whenever they get too far above the arms, by cutting down to the lowermost new bud, they must be cut down on the old wood near to their origin, and only one good shoot allowed to grow; any other bud to be rubbed off. And the same rule must be observed in cutting all those trained on a horizontal plan. In directing vine buds to be left on the leading shoot, it is only intended in case the plant be very strong and vigorous; should it not be so, it would be better to cut it to five, or even to three buds; in which case there would be only one or two branches on each side instead of four, as exhibited in the plate; and the choice of numbers should always be regulated by the strength and condition of the vine.

Out of every thousand men, twenty-eight die annually.

IMPLEMENTS FOR CULTIVATING CORN AND OTHER CROPS.

Corn-ground should be kept light. In some instances the soil is not naturally too heavy, and where this is the case, the use of some implement that will merely cut up the weeds, seems all that is necessary in cultivating the crop. A light harrow and cultivator are perhaps as good implements as can be used. But where the ground gets too compact, something is required to loosen it, and give the roots a chance to penetrate and obtain the substances necessary for the growth of the plant. The common plow, though much used, we think is not the right kind of a tool for this business. It throws the soil too much into ridges, and instead of loosening, its pressure leaves the substratum heavier than it was before. We Yankees, generally suppose ourselves in advance of others in the proper construction and use of implements of husbandry; but in the use of the right kind of implements for cultivating Indian corn, the south and west are ahead of us. They use a coulter, a shovel plow, and a cultivator, according as either is most suitable. The coulter is a simple, but very effective implement, particularly useful in securing deep tillage, which is effected without disturbing the growing crop, or inverting the surface soil, which is a great security against drouth. The implement is sometimes made with two points, as in the annexed cut. The late Hon. James M. Garnet of Essex county, Va., highly recommended this tool for cultivating corn, and gave the following directions for making such an one as is here represented:



"The lower part is made out of inch square iron, flattened and well-steeled at the points, and is twenty-two inches long. The upright part is of bar-iron, about three inches wide by five-eighths thick, and should be eighteen inches high from the top of the bottom of the square bar. The front and hinder edge of the upright should be left square, as it is much easier to break, than to cut a root with a coulter. A half inch screw-bolt will suffice to fasten the upright in the mortice through the beam, which mortice should have a strong iron plate above and below, made so exactly to fit that part of the coulter, as to keep it firm in its place. The usual pitch for the beam of a two-horse plow should be given to the beam of the coulter."

The shovel-plow consists of a beam and handles similar to that of the coulter above represented. The share is a piece of wrought iron laid with steel, somewhat resembling a round-pointed spade or shovel. The point should be drawn forward and the sides bent back so that the shape will be similar to a cultivator tooth. The share is fastened on by a screw-bolt to a piece of wood, (say 3 inches square,) morticed into the the beam. This implement, when rightly made, is very useful. It is generally made badly, which prejudices those who never saw a good one, against them. The share is commonly set too near at right angles with the beam, which prevents the tool from drawing readily into the ground, and while attached to the horse occasions it to have an unsteady, jumping motion. If the share is rightly set, it will be drawn into the ground by the natural draught, will work in any ground well, and will do better work among stumps or stones than any other implement. The share may be made of any width or size, or shares of different width may be made to fit the same woodwork, and used as needed. A wheel of proper size attached to the beam, for land not too rough, would be found an advantage in imparting steadiness of motion, and enabling the plowman to regulate the depth with more ease and precision. A good plow of this kind, although it more thoroughly loosens the soil than a common plow, yet leaves it less thrown into ridges and in better order. The best farmers pass the the cultivator through immediately after the shovel-plow, at the last time of working the corn, which leaves the ground sufficiently level.

In cultivating a crop on sward-gound, the sod ought not to be turned up the first season. Unless the furrows become run together by heavy rains, or settle down too hard, decomposition will more effectually take place, and the gases evolved will be more effectually taken up by by the crop, if the sod is left undisturbed. Should it be expedient to loosen the soil, the coulter will do it without bringing the grass to the surface, and the shovel-plow with its thin, sharp edge, will shave the furrows just as is wished without breaking them. A shovel-plow of small size may be run very close to the corn, and sufficient earth may be thrown by it to bury and kill the small weeds around the hill, without doing any hurt.

Potatoes need a little earth thrown around them—just enough to keep the sun and air from injuring the tubers. The cultivator and shovel-plow will generally do the work right.

For turneps, beets, &c., some tool is wanted that will cut the ground fine and kill the weeds, and at the same time run near the plants without doing harm. It must not throw the earth towards the plants because while they are small a slight burying will kill them. A frame like a cultivator with sharp harrow-teeth, and strong but sharp knives, turned in, will cut every thing close up to the plants.

In cultivating all crops, it should be made a primary object to keep down the weeds from the outset—they should not be allowed to get the least headway. The harrow, cultivator or plow, should be kept constantly moving, and by due attention to this, the use of the hoe or hand-labor may be in a great degree rendered unnecessary.

Driving Horses with a Single Line.—While on the subject of cultivating corn, &c., we cannot avoid saying a word on the mode of driving horses with a single line, practiced at the south and west. Horses well broken to this mode, are much more easily governed by the driver than by the other mode. They will generally go straighter forward, and in marking out furrows for planting, or working among corn, there is no necessity of a boy to ride—a man skillful at the business will mark out his rows, for half a mile in length, as straight as if done by a line. The horse is soon habituated to the mode—he learns that a *steady pull* is intended to bring him to the *left*, and a *jerk* to incline him to the *right*.

The heavy six-horse teams to be seen on the National road, are all driven by a single line attached to the leader, or near forward horse. The off horses are coupled to the near ones. It is true horses may be so disciplined that they will go right without any line, being fully under command of the driver's voice, but they are not often found so, and for managing one horse, only, we decidedly prefer the single line instead of using double lines, or heating the horse by putting a boy on his back.

TO KILL GOPHERS, &c.

An animal by some called the gopher, a species of mole, is sometimes very troublesome in meadow grounds, by throwing up little mounds of earth, which buries and destroys the grass. We have heretofore given various modes of destroying them, one of which, with a cut of the trap, will be found at page 70 of vol. 10. A writer in the Prairie Farmer, (John Sherfry,) says he poisons them with arsenic in the following manner:—"I take a small potatoe and stick holes into it with my pocket knife or a sharp stick, and put into the holes a little arsenic; then I go where they have last been digging, and with a spade or hoe open their tunnel, and drop in the potato. I then put in a wisp of straw or grass or any thing else that will keep the ground from closing the tunnel, and cover it up with earth. Sometimes one can discover them when they have a hole open, throwing out earth; that is the best time to roll a potato in."

AGRICULTURE IN SCHOOLS.

We are happy to perceive that the subject of introducing agricultural books into the common schools and common school libraries, is atttracting much attention, and are pleased to give the following Report submitted to the State Convention of Superintendents of schools, lately assembled at Rochester. Heretofore, little or no information on this subject has been within the reach of the youth of our country generally, and they have grown up ignorant, in too many cases, of the most common objects with which they are surrounded, and of the first principles of the art by which they are to obtain a livelihood. We have, however, no doubt, that the interest now awakened will be the means of soon bringing forward some suitable works for our schools and school libraries, which will be an important aid to a sound and useful education.

Mr. Patchin presented the following report on the subject of introducing the study of agriculture in common schools, recommending that it be frequently made the subject of school exercises, and that more agricultural works be placed in the libraries.

The committee to whom was referred the consideration of the subject of introducing the study of *agriculture* as a branch of education in our schools, respectfully report,

That, as agriculture is the art on which all other arts depend, and the profession in which the greater part of our population are engaged, its improvement and prosperity is a subject of the highest importance; and the committee are of the opinion that the time has arrived when the elements and scientific principles of agriculture should be taught in all our schools, especially to the older class of pupils.

The rapid progress which has of late years been made in those parts where the discoveries of science have been brought to bear on the improvement of agriculture, affords the strongest evidence of the importance of diffusing a knowledge of the principles upon which these improvements are based, among those who are soon to become the owners and cultivators of our naturally fertile, though much abused soil. There can be no doubt but that such knowledge, if properly imparted, would have a direct tendency to improve the practice of agriculture, and elevate the profession to that high rank in public estimation which it so justly deserves.

Your committee have perceived, however, that there are numerous difficulties connected with the subject, and that it requires more deliberate consideration than they have bestowed upon it, to devise the best means for accomplishing the object. Much can be done by the introduction of books on agriculture into the district school libraries. This object has received considerable attention from the New-York State Agricultural Society, and premiums are now offered for the best essays for the purpose. There is still wanting a suitable *text book* on agriculture, for the use of schools.

In view of this whole subject, therefore, the committee beg leave to recommend this subject to the earnest consideration of this convention, and to submit the following resolutions:

Resolved, That this convention recommend to teachers, as far as is in their power, to impart instruction on agriculture, by occasional dialogues or conversations, and the reading of agricultural books and periodicals, so as to explain the principles of this art, and show its respectability and importance to themselves and society.

Resolved, That the convention deem it of the highest importance that our school libraries contain more works on the principles and practice of agriculture, suitable for the perusal of the young; and therefore we take pleasure in recommending to the trustees of school districts under our charge to purchase works of that character.

Resolved, That we will, as county superintendents, take the subject into consideration, and be prepared, at our next annual convention, to express our opinions respecting it, and to act decisively upon it, if deemed advisable.

Resolved, That a committee of three be now appointed to take this matter under their special consideration, and report thereon at our next annual convention; and that the State Agricultural Society be requested also to appoint a committee to confer with them.

A committee of three was appointed, to take the subject into consideration, and report at the next convention.

TURNEP FLY.

The *Brassica* tribe of vegetables, (turnep, cabbage, radish, &c.) is attacked by a little black, shining beetle, to which entomologists have given the name of *Haltica*, derived from a word signifying to leap. It is sometimes called the turnep flea, sand flea, &c. The same or a very similar insect is sometimes quite destructive to cucumbers and other vines, while they are in the first leaf. In England this beetle, or flea, is called "the fly." It is the most formidable enemy to the turnep culture, and great precautions are used to guard against its ravages. In this country it also not unfrequently destroys the turnep crop, almost as soon as it makes its appearance above ground. Various remedies have been devised against it; such as sprinkling the plant with plaster, air-slacked lime, ashes, watering the plants with alkaline or fœtid solutions, &c. &c.

The best applications are undoubtedly those which most promote the growth of the plants, because as soon as they are in rough leaf, they are safe.

At a late meeting of the Royal Agricultural Society's Council, various remedies for the attack of the fly were proposed and discussed. Mr. Beard, agent to the Duke of Buckingham, mentioned an experiment he had tried. He took an old sack, ripped it open, and nailed it to a pole the size of a pitch-fork handle, leaving the ends of the pole about eight inches longer at each end than the sacking. He then smeared one side with tar, after which two men drew the sacking, tarred side downwards, regularly over the field, letting it sweep the ground at an angle of about forty-five degrees, fresh tarring with a brush as often as required. He caught great numbers of the beetles or flies, and saved the crop. He has pursued the plan for several years, and has not had occasion to plow up a single acre from the effects of the fly. He prefers gas tar, in consequence of its having a stronger scent. It is sometimes necessary to go over a field more than once, but the work can be done with great expedition.

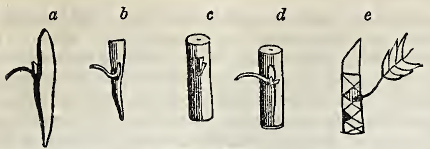
Another gentleman spoke of his experience which had been very successful. A month before he begins to sow his turneps, he provides vessels for the reception of the seed, adding to every twenty pounds of seed, half a pint of linseed oil, taking care to have it well mixed, then adds a pound of flour of sulphur, and every morning has the whole rubbed between the hands to get the seed in a proper state for drilling. He has practiced this mode for twenty years without a single failure.

There is also another insect which does considerable damage to turneps, radishes, &c., commonly called the *maggot*—(*Anthomyia Brassicæ*, of entomologists.)

The parent fly deposits eggs near the crown of the plants—the larvæ, as soon as hatched, make their way into the root, which they perforate in every direction, living there till full grown and ready to pass into their other stages. Whole fields of turneps and radishes are sometimes rendered worthless by them.

Kollar says—"the only way of diminishing this destructive fly is to pull up, and carry away betimes, the plants attacked by the larvæ, which may be easily discovered by their dull lead color, and the withering of their leaves in the sunshine."

An apple without seed or core.—S. W. Jewett, Esq., in a letter to the Boston Cultivator, says he has this year received some "slips," (scions we suppose,) of a kind of apple that has neither "*core nor seeds.*" The fruit, he says, is only propagated near Ticonderoga, N Y. The origin of the variety is given in the following words—"The top of a young tree was bent over and covered with earth which took root; the tree was cut asunder which stopped all connexion with the natural roots of the tree, and by sprouts which sprung from the top portion of the body a regular top was formed, which produces this fine fruit, said to be a beautiful red, good size, very pleasant table apple to be used in the fall."



BUDDING.

The effect of propagating choice fruit about a farmer's premises, is, figuratively, to grow the rose where only grew the thorn, and literally to provide for one's family and friends, some of the choicest luxuries of life; and these luxuries far surpass those of a like kind which are purchased with money, because upon one's own trees, they may be permitted to attain their highest perfection, and because they are rendered more endearing by the personal care and labor which we bestow on their culture.

Budding has several advantages over grafting. It is more readily performed, with fewer implements, and with greater success; it does not injure the stock if unsuccessful, and the operation may be twice or thrice repeated the same year, as the season for its performance is protracted, for some one or other of the varieties, for about three months. Although July and Angust constitute the ordinary season for budding, the plum and the cherry may often be budded in the latter part of June, and the peach, apricot, and nectarine, as late as the middle of September. Any one may readily acquire the art under the directions we are about to give.

The first consideration is to provide stocks, if this provision has not been already made. Seeds may be collected the coming season by almost every family. Those of stone fruit may be mixed with earth or deposited in a hole in the garden, and in the autumn buried superficially to expose them to the expanding influence of the frost; and in the spring, those of the peach and plum that have not burst their shell, should be cracked and the whole thrown into a well prepared bed. Cherries may be sown immediately after they are taken from the fruit, and the apple, pear and quince in the autumn or spring. All kinds will generally grow the first season. If transplanted in June and well treated, the peach will generally do to bud in August or September following, and the others in two or three years, if put into nursery rows, and well taken care of. The rule applies to plants as animals, the better condition they are kept in while young, the more profitable they will become at maturity. No one will regret the trifling labor and attention which he has bestowed on a little plantation of this kind, after he has begun to realize the fruits from it.

A bud is an organized plant in embryo, with roots, branches and foliage, and like a seed, possesses individual vitality, capable of development and the reproduction of its species. The process of budding is the transferring this embryo plant to another tree which must be of the same genus if not of the same species. The apricot and nectarine may be and generally are budded on the peach; the plum and the peach are budded on each other, and the apple and pear may be worked on the wild crab and hawthorn—and the former is put on quince to produce dwarf trees. To render the transfer or budding successful, three things are requisite. 1. That the bud be in a proper condition to transfer. 2. That the stock be in a condition to receive and nourish it; and 3. That the transfer be skillfully made. The bud ought to be matured, of full growth, and yet not so hard as to cause injury in separating it from its parent. The stock must peel freely, as this is necessary for the insertion of the bud, and indicates the presence of what is termed the cambium, which is the soft, partially formed woody matter which underlays the bark, which ripens into indurated wood—is the source of nourishment to the bud, and is the bond of union between the bud and the stock. The operator must use caution that he does not injure either the bud, the bark, nor the cambium, as all these exercise important offices in effecting the union; and he must withal take care to apply his ligatures properly. It will be seen from these remarks, that both the stock and the graft should be in a state of active growth, and the more vigorous the better, when the budding process is performed. It is also preferable to bud when the weather is cloudy, but not wet. Twigs for budding may be preserved for many days, with care. They should be immediately divested of their leaves, but not wholly of their leaf-stocks, or petioles, to prevent the exhaustion of moisture, and may then be wrapped in fresh grass, or with their butt ends preserved in moisture.

The only implement necessary is the budding-knife, and the only preparation some bass-matting, or inner bark of the bass-wood or linden. We shall here describe only the common mode, which we take from the Encyclopedia of Gardening.

Shield-budding, or T budding, is thus performed—Fix on a smooth part of the side of the stock, rather from than towards the sun, and of a height depending, as in grafting, on whether dwarf, half, or whole standard trees are desired; then with the budding-knife, make a horizontal cut across the rind, quite through to the firm wood; from the middle of this transverse cut, make a slit downward, perpendicular, an inch or more long, going also quite through to the wood. This done, proceed with all expedition to take off a bud; holding the cutting or scion in one hand, with the thickest end outward, and with the knife in the other hand, enter it about half an inch or more below a bud, cutting nearly half way into the wood of the shoot, continuing it with one clear slanting cut, about half an inch or more above the bud, so deep as to take a part of the wood along with it, it, the whole about an inch and a half long; *(a.)* then directly with the thumb and finger or point of the knife, clip off the woody part remaining to the bud; which done, observe whether the eye or germ of the bud remains perfect; if not, and a little hole appears in that part, it is imperfect, or as gardeners express it, the bud has lost its root, and another must be procured. This done, placing the back part of the bud or shield between your lips, expeditiously with the flat haft of the knife separate the bark of the stock on each side of the perpendicular cut, clear to the wood, *(c.)* for the admission of the bud, which directly slip down, close between the wood and the bark, to the bottom of the slit, *(d.)* The next operation is to cut off the top part of the shield *(b)* even with the horizontal first made cut, in order to let it completely into its place, and to join exactly the upper edge of the shield with the transverse cut, that the descending sap may immediately enter the bark of the shield, and protrude granulated matter between it and the wood, so as to effect a living union. The parts are now to be immediately bound round with a ligament of fresh bass, *(e)* previously soaked in water to render it pliable and tough, beginning a little below the bottom of the perpendicular slit, proceeding upward closely round every part, except just round the eye of the bud, and continue it a little above the horizontal cut; not too tight, but just sufficient to keep the whole close, and exclude the air, sun and wet.

Future treatment.—In a fortnight at fartherest after budding, such as have adhered may be known by their fresh appearance at the eye; and in three weeks all those which have succeeded well will be firmly united with the stock, and the parts being somewhat swelled in some species, the bandage must be loosened, and a week or two aterwards finally removed. The shield and bud now swell in common with the other parts of the stock, and nothing more requires to be done till spring, when just before the rising of the sap, they are to be headed down close to the bud, by an oblique cut terminating about an eighth or a quarter of an inch above the shield. In some cases, however, as in grafting, a few inches of the stock is left for the first season, and the young shoot tied to it to prevent injury from the winds.

To REMOVE INK SPOTS.—Spots made by black writing ink, on the pages of a book, may be removed by washing them with a solution of oxalic acid in water. The spot must be afterwards washed with clear water. In this way the writer has easily removed fresh ink and left the page white, and old spots have been nearly obliterated.

THE "GANG SYSTEM" IN ENGLAND.

Heaven knows we have misery and degradation and vice enough in this country, and if we had been ignorant of it, the foreign travellers who traverse it, have kindly and frequently brought the fact to our notice; and so intent have our English brethren been on this, that they seem to have overlooked the misery and degradation and vice existing on every side at home. Scarcely had the public recovered from the shock produced by the vile atrocities revealed by the commissioned inquirer into the state of the laborers in the coal districts, and the unparalelled misery of the manufacturing ones, when a new source of oppression and crime was revealed in that part of the Report of the Special Poor Law Commissioners which relates to the employment of women and children in agriculture, or what is called the *Gang system* of labor. We have room for only a brief notice of the subject here; and we only allude to it, to show the condition of the agricultural laborer there, and enable the American tiller of the soil to compare the condition of his wife and children as well as his own, with those described.

The gang system originated at Castle Acre in Norfolk, several years since, and has been gradually spreading, as poverty and misery compel the agricultural districts to adopt any course that will prevent absolute starvation. The parishes around Castle Acre were in the hands of two or three proprietors, and to avoid poor rates, these men allowed the cottages on their lands to fall to decay, and refused to build new ones. The proprietors of Castle Acre on the contrary, kept up their cottages and obtained exorbitant rents by letting them to the poor laborers from the adjoining parishes. As these parishes must have laborers, they resort to those collected around Castle Acre, of which there are some two or three hundred. To facilitate business between the employer and those wanting employ, a person called a "gangsman," is employed as a middle man between the parties. The Report describes the operation of this system as follows:

"Suppose a farmer in or near Castle Acre, wishes to have a particular piece of work done which will require a number of hands, he applies to a gang master, who contracts to do the work, and furnish the labor. The bargain is made with the gang master, and he makes his bargain with the laborers. He accordingly gets together as many hands as he thinks sufficient, and sends them in a gang, under an overseer, to their place of work. If the work, as usually happens, is such that it can be done by women and children as well as men, the gang is in that case, composed of both sexes, and of all ages. They work together, the overseer taking care they are steady to their work, and checking any bad language or conduct. The overseer usually goes with them to their place of work, and returns with them when they have done for the day. One gangsman at Castle Acre has about one hundred persons in his employment, with four or five overseers."

The result of this system is easily seen, and are forcibly detailed in the Report. The gang-master for instance, engages 50 hands to pull turneps, or harvest wheat, in a field 5 miles off. On reaching the place, the weather becomes unfavorable, they cannot work, and they return without receiving any thing. Children of six years old have to walk 5, 6, or 7 miles to their work at times, and if it rains, are compelled to walk back again. To children, such walks are worse than the work. The day, for the gang, is divided into four parts, and if a laborer, man or child, fails, or rain stops him, before the part has passed, he gets nothing for it. One of the worst effects of the gang system is its moral influence on the laborers. The character of the employed is of no consequence to the gang-master, and hence, says the Report, "all sorts of characters, male and female, are mixed up in these gangs. Idle and profligate persons whom no one would employ unless they could be kept under constant superintendance, naturally find a resource in these gangs. A large proportion of the females consist of grown up girls, of whom one of the overseers stated, that in consequence of ganging, seventy out of one hundred were very imprudent, or prostitutes." As the places of work are frequently from six to ten miles distant, the gangs are sent in carts or wagons, and during their absence which is sometimes several days, sleep in barns or elsewhere, as they can, which will in part account for the gross immorality of this class of the laboring poor. Another consequence results from this system. The whole laboring population, wherever it prevails, are in the power of the gang-master, who, if he is a "hard man," and he has every temptation to be such, becomes a perfect tyrant. Were he ever so favorably disposed, he has little power to mitigate their condition; but he has the power to exact from them any amount of labor he pleases; frequently his condition is that of "a poor man who oppresseth the poor," one of the most grinding and aggravated kinds of oppression. One of the most alarming features of the case is, that the gang system is spreading and increasing; a sure proof of the deepest condition of moral and physical degradation, a condition in which a man voluntarily consigns himself, his wife and children to a state of hopeless servitude for the miserable pittance of potatoes and bacon, that will keep soul and body together. Negro slavery is an evil for which God will visit any nation; but here in the midst of a people boasting that whoever touches their soil is free, we find a deep and firmly rooted servitude, to which in its consequences, American slavery affords no parallel. That government which tolerates such a state of things, or which by its lust of power has reduced its agricultural population to such a frightful condition, must expect that the day of retribution, dark and terrible, cannot be far distant.

DAIRYING.

Experiments are being made with glass milk pans in England. It is thought by some that they will be found very excellent articles. The price, it is said, will not be high, and it is supposed that they have an advantage on account of the purity of the metal, and their being no risk of any injurious action which may injure the cream or prevent it from rising. Cheap China has been recommended and sometimes tried for milk pans. It is thought by some that milk pans should be shallow. This subject was discussed at a late agricultural meeting in England. One man stated that he believed it had been demonstrated that the same measure of milk poured into a vessel allowing it to stand two inches deep, would cast nearly twice as much cream as it would do if its depth were eight inches. Now does the experience of dairymen in this country agree with this? We should be glad to know.

At the meeting above alluded to, Mr. Greaves stated that he had found in his own dairy that a piece of saltpetre about the size of a hazel-nut, dissolved in warm water, and mixed with every gallon of new milk as soon as it is strained, not only caused the milk to cast its cream better, but had the effect of removing from the butter every disagreeable flavor arising from the herbage of particular pastures, such small addition to the milk, of so well known and simple saline substance, imparting to it a wholesome character, rather than otherwise, in a dietetic point of view.

We have seen saltpetre used in this way with good effect.

Another gentleman at this meeting spoke of the *syphon* for separating milk from cream. The syphons were made of block-tin, with a tube about a quarter of an inch bore. They are completely self-acting, merely requiring to be inserted in the milk and set at work, the stream continuing to flow by such decantation until the cream presented itself for admission into the lower orifice of the tube, when its greater body and less fluidity prevented its free passage, and the syphon gradually stopped of its own accord. This complete draining of the milk from the cream, rendered the butter very superior in its keeping properties.

Sore Teats in Cows.—An old receipt for this ill which the cow is heir to, is rubbing the parts affected in molasses, and we have known it to be tried in many cases with success.—*Bost. Cult.*

PRINCIPLES OF BREEDING.

At the sixth agricultural meeting in Albany last winter, the subject for discussion was the proper mode of improving the breed of domestic animals. Mr. HOWARD, associate editor of the Cultivator, made, substantially, the following observations.

Mr. H. said although he thought the remarks which had been made by the gentlemen who had before spoken, were, from their general character, highly interesting, yet he should have been pleased if something had been said having a more direct bearing on the subject under consideration.

It seems to be admitted, by most persons, that domestic animals have in some cases been improved by man, and the object, in the outset, is to ascertain *how* that improvement has been effected; because, "what man has done, man can do." What, then, has been the system pursued by the improvers of animals? Some natural principle has doubtless been acted on. In the history which has been given of the management of Bakewell, Fowler, Colling, and others, we are not informed that the constitutional qualities of their animals were changed or improved, by keeping them on any peculiar kinds of food. They, to be sure, had their animals well fed with wholesome food, adapted to their age, but no particular mode of feeding was relied on to effect a *constitutional* improvement. Nor was it supposed that those men had a very thorough knowledge of the phisiological principles, which had just been spoken of. In saying this, it was not intended to undervalue science, but simply to state, that with such light only as is within the reach of every man, important improvements have been made. If to the practical habits of observation which those celebrated stock-breeders possessed, had been added a thorough knowledge of anatomy and animal physiology, the results of their labors might have been still greater. But practical skill and discrimination, are of the first consequence, and with the men who possess these requisites, theoretical knowledge will be turned to the best account.

An attempt will be made to state, briefly, what is believed to have been the *foundation* on which Bakewell, and other improvers of stock, conducted, or continued to conduct their operations.

The best domestic animals for any particular purpose, are seen to possess certain natural or constitutional characteristics.

It may be said to be a law of nature applicable to the animal and vegetable world, that "*like produces like.*" This, though a truth in a *general* sense, is not strictly so in a *particular* sense—if it were, all animals of the same general family or race, would be *exactly* alike. For an illustration of this idea, suppose we take a given number of animals of any species, breed them together, and rear their progeny. We do not find an *exact* resemblance among them, nor do they exactly resemble either of the parents, or any of their progenitors. Some of the offspring may not possess as many good points as their progenitors had, and occasionally some may be found with more. There is a variation, but still there is a general resemblance. Now if we select from the offspring of our first named animals, some which are actually better than their progenitors, and breed from them, always bestowing proper attention, we may have some among *their* progeny also, which will exhibit the same superiority over the parents that was mentioned in the first instance. If we select the best from these again, and go on as before, we obtain the same results—we may still have a few superior ones—and thus by attending for many generations to these rules in selecting, a general, fixed and permanent improvement is effected.

But it should not be supposed that the superiority of offspring to parents, which has been spoken of, is frequently to be expected; on the contrary, such superiority is rare, especially in those breeds which have derived their excellence chiefly from the art of man—in such cases a progeny is more likely to be inferior to its progenitors, than superior—nevertheless, that superiority is sometimes found; and experience has proved that if such animals as possess it are chosen for propagation, those superior points, though in their first development they may seem to have been only an accidental deviation from general laws, may be perpetuated in the future progeny—may be transfused through a larger number of animals, and other improvements added in succeeding generations.

The principle then is this—that *like begets like* in a *general* sense—that there are some variations within this rule, which, when seized on, constitute the basis, under proper management, of new and improved varieties. That particular qualities in animals, though apparently accidental at first, may become fixed and hereditary, (coming under the general principle that like begets like,) by the exercise of care and skill in selection and breeding.

It is by having acted on this principle, that improvement in breeding domestic animals has been chiefly effected.

But it is impossible to lay down rules for selecting and breeding, so minutely that they will infallibly lead every one who undertakes to follow them, to the desired point of improvement. To be able to select the best animals for particular purposes, requires a nicety of discrimination which can only be acquired by a long course of the closest observation, and a habit of comparing different animals, united with a natural taste for the subject and a thorough understanding of its principles. Such is the attention, study and observation, that is necessary to constitute a successful breeder, that few men have hitherto been able to secure that title, and until men are much altered, it will continue to be so in future. It is an easy matter to improve an inferior stock by crossing it with a superior one; but when there is no longer a superior stock to resort to for crossing, there will be found but few who will be able to push improvement any further. And this will always render the number of *truly fine* animals, comparatively small, and as a natural consequence, the prices they will command, will be comparatively high.

It is believed that the principle here laid down, is the one which has been acted on in breeding, whether improvement has been sought by crossing distinct breeds and rearing a new one from the issue, or by breeding entirely from one variety. It is this principle which constituted the basis of the improvements effected in the Long Horn cattle by Bakewell and Fowler, in the Short Horns by Colling and his coadjutors, in the Herefords by Price, Tompkins and others. It has also been equally the basis of improvement in sheep-breeding, from the Leicesters of Bakewell down to the South Downs of Ellman and Webb, and the Anglo Merinoes of Lord Western. *Proper selection* is the grand point, and, with a sufficient range for this, with due care in feeding, &c., in proportion to the skill and judgment of the breeder in discovering the excellencies and defects of animals for particular purposes, so will be his success in attaining the points of improvement at which he aims. Every thing depends on the faculty of the breeder to select those animals for propagation which are best calculated to promote his object.

It may not be improper to make a remark here in relation to certain modes of breeding, in reference to which much has been said and written.

Breeding from animals of near relationship, commonly called *in and in* breeding, is generally considered injudicious. On the other hand, crossing two distinct races, whose characteristics present a wide contrast, is by some considered equally impolitic.

Breeding *directly* in and in, or from *precisely* the same blood, is not, probably, often practiced by professional breeders. It is usually admitted that Bakewell practiced very *close* breeding, if, indeed, he did not breed from precisely the *same* blood, with both cattle and sheep. And yet his stock not only improved in symmetry and tendency to fatten, but in constitution also.* It is true that after his death the stock declined, but under the guidance of his master mind, no degeneracy was indicated. He made such selections of animals for breeders, in the beginning, as suited his judgment, but afterwards confined himself to his own stock; but it has been observed that his stock was so large as to furnish unusual facilities.

---

* "The principle which he [Bakewell] invariably adopted was, to select the best beast that would weigh most in the valuable joints; so that while he gained in point of shape, he also acquired a more *hardy breed*, and especially by attending to the kindliness of their skins, he became possessed of a race, which was more easily fed and fattened than any other."—[Complete Grazier, p. 34.]

Crossing long-wooled with short-wooled sheep, and breeding from the issue, is commonly considered injudicious, and in general the plan does not succeed, yet examples may be cited to show that great success has sometimes followed its adoption.

Mr. Twynam, of the county of Hants, Eng., has for twelve or fourteen years been engaged in breeding a race of sheep from an original cross of the Cotswold and South Down. His sheep sustain a very high character, and he has carried many prizes on them. Count de Gourcy, in the account of his late tour through England and Scotland, speaks of them in the highest terms, both those which he saw in the possession of Mr. Twynam, and of the same stock which he saw on the pattern farm of Lord Ducie, under the direction of Mr. Morton. The Count states that Mr. Twynam has for a few years past, sold many of his sheep to be sent to Australia, India, &c.*

Another striking example is that of the Anglo Merino sheep of Lord Western. He commenced his experiments about the year 1812, with some sheep presented him by George III., which that monarch had received from Spain. The peculiar race to which he has given the name of Anglo Merino, were produced by a cross of the Spanish with the English long-wooled sheep—the object of Lord Western being, as he has declared, the production of a Merino fleece on a Leicester carcass. His first crosses were with the Leicesters, and afterwards with the Cotswolds and the Kent long-wooled sheep. His success, up to this time, has been very satisfactory. He has obtained a carcass weighing at two years old from a hundred and twenty to a hundred and thirty-five pounds nett, selling at a high price to the butchers, and has obtained at the same time a fleece averaging nearly six pounds of washed wool, commanding a price in market nearly equal to full blood Merino. His flock of breeding ewes, of the cross-bred stock, is about eighty in number.

It is not now intended to *recommend* these modes of breeding, but to show from these examples, (and others might be given,) that men who thoroughly understand the business, with a sufficient range for selection, may effect improvement by either of them. But the breeder must not be confined to too small a number of animals—he should have so many to choose from that there may be an opportunity of obtaining the points he wishes for, without concomitant defects. Range for selection is very important, and much disappointment has frequently been experienced from inattention to this particular. Some seem to have an idea that to obtain a superior stock it is only necessary to procure a single pair of animals of the breed desired, and leave them to an indiscriminate copulation. The expectations of farmers are often highly raised from the circumstance of a few improved animals being brought into their neighborhood, and it appears to be supposed that in the course of a few generations their whole stock will possess the blood and perfections of the new breed. These expectations are seldom realized. From the limited chance for selection, animals having the same defects are permitted to breed together, and the consequence is that these defects become more and more conspicuous with every generation, so long as the injudicious course is followed, the stock degenerates and dwindles away to worthlessness, perhaps, even before the sanguine, but dull-sighted owner is aware of it. This consequence may perhaps follow sooner where stock is bred from close affinities of blood, but if the selection of breeders is confined to the progeny of only two or three animals, it is almost impossible to avoid degeneracy.

It is often remarked that high bred animals, as they are called, (or perhaps we should say high-bred *fattening* animals,) do not breed readily. In animals of this character, a sort of artificial temperament or constitution seems to take place—a change somewhat analogous to that which not unfrequently occurs in plants. An extraordinary development of one class of organs is frequently attended with a greater or less defect in other organs. Strawberries and other fruits, of a size much greater than is common with the species, are sometimes produced. But they are generally much less prolific than other kinds which show no extraordinary departure from the original or natural characteristics of the race. The flowers of some plants by cultivation become *double*. In this case, the stamens, or one portion of the procreative organs, are converted into petals—the plants become *monsters;* and are either totally barren or produce only a small quantity of imperfect seed. So with certain animals, cultivation has partially changed their constitution—their procreative faculties are weakened—the energies of the organs of generation become as it were swallowed up by the fat-secreting organs—and the animal is either incapable of propagation, or begets only a feeble progeny.*

The skillful breeder will be always on his guard against this defect, or *monstrosity*—he will take care that no one property is cultivated to the sacrifice or injury of any other essential one—he will not encourage the fat-forming organs to such a degree that the generating organs of his animals become weakened, and consequently the constitutions of their offspring impaired. Vigorous and energetic animals should always be chosen for propagation—and the ultimate success of those breeders will be greatest, who pay due regard to the proper balance of the animal system.

In reply to an inquiry by Professor Emmons, "which of the parents has most influence on the progeny?" Mr. Howard said—that was a question on which even "doctors disagree." Some few years ago, the Rev. Henry Berry, of England, wrote a prize essay on this very question, and the ground he took was, that where both parents are equal in strength or purity of blood, the influence of each on the progeny is equal.

It is, however, reasonable to suppose, that in some respects this influence of the parents cannot be equal; and that the theory is well founded that the *constitutional* qualities, nervous temperament, &c., are more likely to resemble the dam, and the *external* qualities, such as outward form, color, hair, &c., to resemble the sire. Many examples might be cited in support of this theory. Many farmers have noticed how much more likely their animals are to inherit the diseases of their dams, than their sires. When we consider that the animal is supported during the fœtal stage of its existence entirely from the blood of the mother, and that this blood, circulating through every part of the system would, of course, be affected by the state of the animal's health, this consequence would seem to be perfectly natural.

On the other hand it has been noticed that the outward features of the sire, more frequently than those of the dam, are enstamped on the progeny. This has been attributed to the nervous influence of the dam—or what is called the influence of the imagination of the dam on the fœtus. Practical men believe there is something in this. Professional breeders avail themselves of the principle in giving to their animals some desired marks or qualities. It must have been something akin to this, by the influence of which, through the medium of peeled rods, Jacob caused the cattle to be born "ringed, streaked, and speckled." Breeders of horses sometimes take great pains to operate on the imagination of the mare, and thus produce in the foal certain characteristics. At the time of conception, or within the first month afterwards, the fœtus seems to be particularly susceptible to this influence, and it is not difficult to produce the changes spoken of. Some striking instances of the effect of this sympathetic influence, might be given. One of the most remarkable, perhaps, as showing the evidence of anterior excitement, is that of a mare, seven-eighths of Arabian blood, after having produced a foal by a stallion quagga, (a species of zebra,) continued, after a lapse of five years to reproduce the markings of that animal, at three successive births, although the sire of all the subsequent progeny was a thorough bred Arab horse. This is a well authenticated fact, and correct portraits of the mare, the hybrid, and the three foals which the mare afterwards had by the horse, the latter showing the stripes of the quagga, are preserved.*

---

* The Mark-Lane Express of May 13th last, gives an account of a show of animals which had just been held in England, at which Mr. Twynam carried the prize for the "best ram of any kind, breed or age."

* Barrenness of females seems in some cases to result from excessive venereal excitement. Cases of this kind are entirely distinct, and are the result of a different cause from the imbecility here alluded to

The influence of one black sheep, though it may never have any progeny, is often noticed in causing black lambs. Shepherds who have kept black dogs with their sheep, have observed the same effect. The nervous influence of animals in a state of pregnancy, shows itself very conspicuously in the effects of fright on the offspring. Many cases of this kind might be cited in the human species, as well as in our domestic animals.

AGRICULTURAL COLLEGE IN TENNESSEE.

In the March number of the Cultivator we mentioned that a charter had been obtained for an Agricultural College near Nashville, Tennessee. It gives us pleasure to be now able to state that considerable progress has already been made towards fitting the institution for the reception of students, and that it is expected to be opened by the first of January next. It has received the name "Franklin College," and is located at "*Elm Crag*," the residence of T. Fanning, Esq. editor of the Tennessee Agriculturist. We have received from Mr. Fanning a pamphlet containing the outlines of the system of education which it is intended to pursue. We are happy to see that our friends have commenced the work in good earnest, and hope their success may be all they have anticipated. The "outlines" seem to us to be based on the right principles. It is true, as here stated, that "no word has been more vaguely used than the term education," but we trust the time is at hand when proper education will be considered the cultivation of those physical, intellectual, and moral powers of man, by the harmonious exercise of which his own happiness, and that of his species, is promoted.

We would call attention to the following extracts from the pamphlet referred to:

"In conformity with the ancient maxim, that 'in a sound body alone can a sound mind exist,' we regard Physical Education as the firm basis of all useful training. As a broad, deep and solid foundation is essential to the stability and safety of an edifice, we esteem proper Physical culture as the ground work of the highest intellectual and moral attainments. Not that size and mere physical force are always sure criteria from which to infer the greatest strength of mind, but that the full development of the physical man is important to the greatest mental and moral energy. Believing these are plain principles in nature, the truth of which no intelligent mind will controvert, we proceed to detail the plan which we propose adopting for the accomplishment of this important improvement, in the system which we present for consideration.

Notwithstanding the strong prejudices against manual labor, as connected with the education of the young, we believe and trust they can all be removed, and that physical education will, at no very distant day, become one of the most agreeable parts of juvenile training. Experience and observation have and do demonstrate the great truth, that exercises in the way of sports are the engrossing employments of youth; and this clearly proves that physical exercises are disagreeable only from association. Parents as well as youths must be convinced that physical labor is at least as important as mental, before it will be appreciated.

The objects of the trustees may be more clearly seen by carefully studying the following propositions:

1. Physical Education is essential to good health, a vigorous constitution and a sound mind.

2. It was designed by the Creator as a blessing to man. He was made to "till the earth," and was placed in the garden of Eden to "dress and keep it."

3. Labor has been honored by the best of men in all ages, should be honored now, and the young should be taught to regard it as respectable and highly important to their well being.

4. While manual labor affords exercise of body, it offers recreation and variety to the mind.

5. It will enable youth to acquire knowledge of agriculture, horticulture and the mechanic arts, which will be very useful to them through life.

6. Labor, in an institution of learning, will supply the place of idle and vicious sports, and will be the surest preventive of dissipation.

7. Students, by devoting a portion of their time to physical culture, can apply themselves more clearly to books, and can think more intensely on all subjects.

8. Physical Education gives energy of character, and habits which will enable their possessor to succeed with more certainty in every avocation of life.

A full discussion of these propositions we deem unnecessary, for they are self-evident, and only require the intelligent to see them to be satisfied of their truth.

All learned and reflecting men admit there is a strong tendency to deterioration in the human family, and that idleness, from whatever cause produced, is productive of sloth, feeble muscular powers, defective intellects, and the consequent depreciation of all the powers.

There are two extremes in society which we have but little hope of materially benefitting by the system we propose. The very degraded and the very opulent, too generally view labor as a punishment, and therefore will be loath to adopt any industrious avocation. It is a lamentable truth, that not one man in fifty, brought up in luxury and idleness, ever becomes educated, is successful in business, or is even capable of retaining the estate inherited. Hence the doctrine of one of our profoundest statesmen, that generally in three generations property, and often respectability, passed from families. Not one in a hundred who does not understand the means of accumulating wealth by industry, is competent to take charge of it.

But objections are strenuously urged against labor as connected with education. It is said "Manual Labor Schools have been attempted and failed." This is true, and we add it was but just that they should have failed. When labor is performed as a degradation it cannot but be objectionable.

The evils are two, but both can be corrected.

1st. The character of the employments were such as to forbid success. The hard labor of the cornfield, without science to direct, is truly uninteresting. It is our object to have such improvements and operations in the farm, garden, nursery and workshops, as will, in themselves, be interestng to youth. The importance of every performance will be fully explained by those amply qualified, and we doubt not by the proper classification of students, and division of labor, commendable emulation may be excited, and students thereby will become as much interested in physical as mental labor.

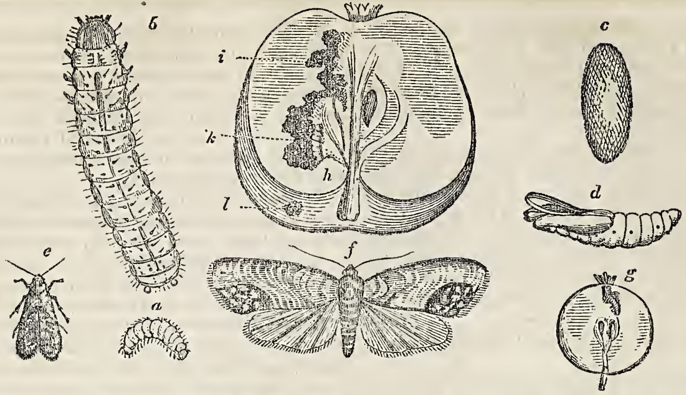
2d. The character and qualifications of those who conducted the physical operations in the manual labor schools with which we have been conversant, were such as to forever preclude success. Men without education have been employed, as a kind of overseers, to drive boys to their labor as slaves. To remedy this glaring outrage, we contemplate having all the physical labor conducted by professors, tutors and officers, of the institution, or gentlemen eminently qualified, and no student will be asked to perform service, in which the teachers shall not diligently employ their time.

On this plan the farm and garden will afford the best facilities for the study of geology, chemistry, botany, tillage, the care of crops, the propagation of fruits and ornamental shrubs; while the workshop will constitute an excellent laboratory for the study of natural philosophy. And it is not to be forgotten, that all men, whether lawyers, physicians, preachers, merchants, or others, will be much benefited through life by a practical knowledge of agriculture, horticulture, and the Mechanic arts."

Rust in Wheat.—Mr. Willam Messic, in a communication published in the Northern Planter, says:—"Wheat sown on land where gypsum is used freely, is certainly more apt rust, than where it has not been used." Does the observation of others corroborate this?"

---

† See Naturalist's Library, Mammalia, vol. 12, p 342, &c



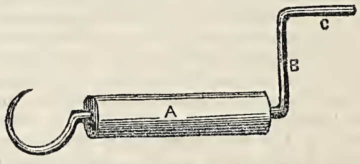
The Apple Tree Worm—*Carpocapsa pomonella*—Larvæ nat. size *a;* greatly magnified *b;* larvæ enclosed in a silk web *c;* chrysalis *d;* perfect insect *e;* magnified *f;* larvæ in a young apple *g;* larvæ feeding on the pulpy part of the apple *h, i;* larvæ *k;* quits the fruit at *l.*

The insects we have now described, have been depredators on the foliage or the wood only, the canker worm excepted; but there is another most mischievous enemy of the apple, that attacks the fruit only, and where it prevails is known as the apple worm. It is a true caterpillar, not a grub, like the plum and cherry weevils; and is the larvæ of the moth called *Carpocapsa pomonella,* the codling or fruit moth. A good description of this worm, with figures, which are copied above, may be found at 230 of Kollar's work on insects. In some years this apple worm has been so common in New-England, that a very large part of the apples were rendered worthless by it. It is very rare in the interior of the States, but we have occasionally met with it, and it is to be apprehended it will become still more common. The moth appears in the latter part of June, or beginning of July, and without puncturing the fruit, deposit their eggs in the hollow at the blossom end of the fruit, where the skin is most tender, and the worm the least liable to disturbance. As soon as the worm is hatched, which is in a few days, it commences eating into the young fruit, making their way from the eye towards the core, and marking its presence by the powder thrown out of the opening. The moth seems to prefer early to late apples, and the thin-skinned summer fruits suffer the most extensively. In the course of two or three weeks, the worm has burrowed to the core, and attained its full size. To get rid of the matters made in its excavations, it cuts a round hole through the side of the apple, and thus is enabled to keep its burrow clear. Sometimes the worm leaves the apple before it falls, but usually the injury it has received causes it to fall prematurely, when the worm quits it, and spins a cocoon, in which it changes to a chrysalid, and in a few days more, the perfect insect appears, to renew the work of destruction. These are only the earliest ones; the later ones do not perfect their transformations till the ensuing spring. The surest mode of destroying the apple worm, is to allow swine to run in the orchard, to gather all the fruit that first falls; or where this cannot be done, to pick them up by hand and feed them to some animal. The plum weevil and the apple worm are distinct insects. The plum weevil has been found in the apple, but the apple worm never in the plum.—*Gaylord's Prize Essay.*

COTTON GIN.

Messrs. Editors:—In the number of the Cultivator for this month, I observe an inquiry from Central America, in relation to the cotton gin mentioned in my letter of 1842. I regret the information I have to give will not be very satisfactory. The model gin is yet in the hands of the inventor and patentee. He makes none, and so far as I know, will not allow any other person. There can be no doubt but this gin would answer for Sea Island cotton, as the least amount I have heard suggested for a day, is 150 pounds of clean cotton. The quantity is however, uncertain, as the inventor has never permitted it tested. He has told me it will clear 250. If this can be attained, it would abundantly answer for uplands. The gin would cost about $75. In the fall of 1842, a company purchased from the patentee its use for two counties, for which they paid him $5000, with the privilege in a given time to this State, if they so determined, for $50,000. This company sent on an agent, with the inventor, who by agreement was to superintend the construction of certain number of gins in Paterson, N. J. On getting there, a disagreement took place, and the model being in the possession of the patentee, he would not let the agent have it, & returned the money, and so far as I know none were made. I have heard it suggested, indeed it is said to be the remark of a Sea Island cotton planter, that they do not want it, as it would reduce the price of that species of cotton. The inventor is here now, and too busily engaged in perfecting other machinery, to remember any former matter of his ingenuity. The last made public, is a pump for lifting water, and this I consider the perfection of that machine. It is simple, efficient and durable—it is not bounded by quantity or height. The longest in use here, is 32 feet. This a child can work, raising 1½ inch column. I am sure a man's strength would raise 1¼ inch column, 100 feet. J. B. Cook.

Demopolis, Ala., May 25, 1844.



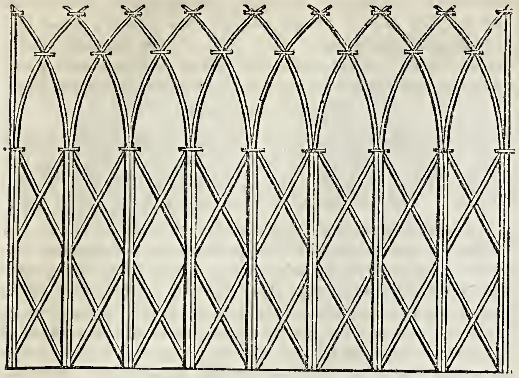
A STRAW BAND MAKER.

Messrs. Editors—This little instrument which I have used with success, (invented by a friend of mine) performs what it was designed for. With the aid of this a band of any required length may be made of short straw, from the threshing machine or flail. It requires two persons to make bands: one to let the straw out, the other to twist, somewhat similar to making a tow string.

When drawn out the required length and twisted, the band should be doubled and let twirl. This will keep the twist till the band is wanted to be used single. To form the instrument, round a piece of iron one half inch thick and about eighteen inches in length, form a hook on one end and make it small and sharp at the point. The hook is one and a half inches in diameter, with three quarters of an inch opening to receive the straw. Bore a piece of wood five inches long for a handle A, to turn on the iron next the hook; bend the remaining part of your iron B nearly at a right angle with the first bend A, five inches in length; bend the remaining part of your iron C at a right angle with the last bend B. On this you may have a wooden handle as before or not, as you choose. John M. Harlan.

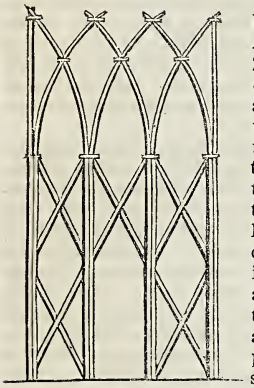
Chester county, Penn., May 17, 1844.

Anti-Magnetic Property of the Onion.—The magnetic power of a compass needle will be entirely discharged or changed, by being touched with the juice of an onion.



GRAPE FRAME—(Side view.)

Messrs. Editors—I send you a rude draft of a frame for a grape vine or trellis. It is the cheapest, if not the strongest trellis for a vine, which can be constructed, being nearly all made of straight poles; the diamond work alone being made of slips of board about 2 inches wide, to be nailed to the poles on the inside.



End view. Entrance.

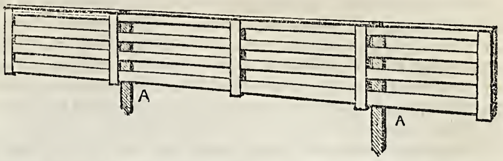
The four corner posts should be larger than any of the rest. All the others should be about 2 or 2½ inches in diameter each, at the foot. Two poles are tied together with large wire, say about 7 feet from the feet of them, or base; and at the corners, two poles besides the corner large pole, making three, are tied together, then lay them about two feet apart or more if you wish, according to fancy, only place them all at an equal distance apart, then nail on the slips of board as in the figure. Having completed the two sides, which should be alike, the two ends should be made in like manner as per figure; the two sides may now be raised and locked together by placing in the crotches short poles notched at each end to hold them together; then raise the ends and tie them to the corner posts, after securing the whole frame and placing a few boards across the poles, that bind the two sides together, for a floor to stand upon; then bend over the tops of the poles and tie them, as in the plate, and the whole is finished. This may be extended in length or width, and varied almost to any extent in height and proportions. Here you have a true gothic temple after covered with the vine, in which you may sit, and none to molest or make you afraid. The poles may be of oak or ash, or almost any wood that is straight and smooth, and will bend without breaking. Elisha Thayer.

Dedham, Mass., May, 1844.

IMPROVEMENT IN FENCES.

Editors of the Cultivator—Having experienced great trouble and expense from my fences being thrown up every winter by the frost, and having attempted several expedients to remedy the evil with but partial success, I was pleased to hear that a patent had been taken out for a fence on a new construction, expressly designed to obviate this difficulty. The contrivance referred to combines all the advantages of the common post and board fence, and is less, or not more expensive, while it effectually guards against the action of the frost; and as in rural economy few things are so important as fences, I thought you would be pleased to make this improvement more generally known, through the columns of your useful journal.

The drawing I have sketched will give an idea of the construction. It represents two lengths of board fence, say 12 to 14 feet each. The posts marked A, are alternate detached posts put in the ground, with a mortice over them in the cap, through which they may pass when lifted by the frost, without raising the body of the fence; and being sharpened at the lower end, they are easily driven to their place when the frost leaves the earth. These posts should be of locust or cedar. The other alternating posts, cut to the height the fence is wanted—say 4 to 4½ feet—may be of any less valuable timber: pine, or hemlock scantling, 4 by 4 or 5 inches, and those by the side of the long or ground posts, need not be more than 2 by 4 or five inches. A board corresponding to the top board in the figure, is nailed to the back of the short posts, close beneath the cap.



It will appear, from the inspection of the figure, that the fence keeps its station on the ground, while the posts which preserve its vertical position, may be thrown up, more or less, by the action of the frost.

I should add that there have been many trials in this county for the last two years of the advantages of this improvement, and so far as I am informed, with great and uniform satisfaction.

Mr. Isaac Van Amberg, of Watertown, in the county of Jefferson, is the patentee of the above " improvement in fences," and is now about establishing agencies for its wider diffusion. Henry D. Sewall.

Watertown, Jefferson county, N. Y., May 29, 1844.

CULTIVATION OF FRUIT.—No. VII.

Raspberry, Gooseberry and Currant.

Although these fruits are not so important as some others, they should be considered as indispensable to every fruit garden. Their early maturity, their pleasant and agreeable flavor, the certainty of the crop, and the short period of time required to bring them forward to a good bearing state, render them truly valuable.

The Raspberry.

This is generally considered as much superior to the other two in flavor. Most of the varieties are propagated with great facility by transplanting the suckers, and those which do not increase by suckers, are easily propagated by layers. Of the latter, are the Early Red, and the American White, both of which are well worthy of cultivation. The extremities of their recurved stems frequently take root spontaneously by bending over to the earth; but where this is not the case, they may be made to root with facility by making a hole in the earth with a sharp stick, thrusting in the ends of the branches, and securing them by pressing the earth about them with the foot. After one summer's growth, the newly rooted plants are detached, either in the autumn of the same year or the succeeding spring, and will bear some fruit the first year, and plentifully the second. New varieties are raised from the seed, and will come into bearing the second year so that their quality may be determined. Bridgman says, "Raspberry beds are in their prime about the third or fourth year; and if well managed, continue in perfection five or six years, after which they are apt to decline in growth, and the fruit to become small, so that a successive plantation should be provided in time. Select new plants from vigorous stools in full perfection as to bearing.

The soil for the raspberry should be rich and inclining to be moist. The culture is very simple; for common varieties, consisting merely in pruning each spring, and in keeping the weeds and grass well cleaned away from around them and the soil well cultivated. The pruning is best performed early in spring. All dead stems should be removed, grass and weeds cut away, and all the smaller shoots cut off even with the ground, leaving only from three to five of the most vigorous of the last sea son's growth for bearing the coming summer; these should be cut off at the top to about four-fifths of their original height, and neatly tied together. If they are slender and not sufficiently rigid to bear the future weight of leaves and fruit, they should be secured to a stake. In tying them together, they should be allowed to spread open at the top in the form of a wine-glass.

There are twenty or thirty named varieties of the Raspberry, but we are able to speak from personal knowledge of but few of them. The *White* or *Yellow Antwerp*, is an excellent one and of large size; for excellence it is commonly considered as standing at the head of the list; but it partakes of a slight musky flavor, hence it is considered by some as inferior to others. The *Red Antwerp* is highly esteemed, but is inferior to the preceding.* The *Red Cane* is a good bearer and has a pleasant flavor. The *White American* is a very valuable one, and is probably too much neglected. The *Black American* or wild raspberry, (*Rubus occidentalis*) affords an excellent fruit, which probably might be much improved by cultivation.

The Currant.

The currant is very hardy, grows freely, and almost uniformly bears abundant crops; the pleasant flavor of the fruit is well known, and ripening early in summer when but few kinds of fruit are yet mature, it becomes of great value.

As to soil, Loudon says, "it generally does well in any common garden ground, well tilled and recruited; it bears the *greater crop* in a strong loam, or improved clay, somewhat moist; the *earlier* in a light sandy mould, which is not poor. Previous to planting the ground should be dug two feet deep."

The mode of propagating the currant is by *cuttings*. The shoots for this purpose are to be of last year's production, and of vigorous, straight and thrifty growth. Before planting, every bud is to be cut off closely except two or three near the top, to prevent the growth of too many stems. They should be inserted at least six or eight inches into the earth. Instead of allowing numerous shoots to spring up from each root, they should be trained to a single upright stem to the height of a foot, at which point the branches should radiate on all sides, in an upward direction, so as to form a handsome spreading top.

Currants, on account of their hardiness, are commonly totally neglected in culture, and are suffered to become overrun with grass and weeds, and to become crowded with suckers and numerous branches. Inferior fruit is always the result. To prevent this and increase the flavor and size of the fruit, they require proper and seasonable pruning, as well as cultivation of the soil. The leading requisite to be observed in pruning, is to cut away all superfluous shoots, especially those of less thrifty growth, and also old, unproductive branches, so that air and light may be freely admitted, and the fruit not too much crowded upon the bushes. Neill, author of the treatise on Horticulture in the Edinburgh Encyclopedia, says that Macdonald of Dalkeith House, "raises currants of the best quality. A good deal depends on the way in which he manages the bushes, especially during the ripening of the fruit. He prunes the bushes at the usual season of midwinter, shortening the last year's shoots down to an inch or an inch and a half. Next summer the plants show plenty of fruit, and at the same time throw out strong shoots. As soon as the berries begin to color, he cuts off the summer shoots to within five or six inches above the fruit. Sun and air thus get free access, and more of the vigor of the plant is directed to the fruit; the berries are found to be not only of higher flavor, but larger than usual." Kenrick says, "Mr. A. D. Williams of Roxbury, Massachusetts, practices winter pruning on perfectly similar principles, and with the most decisive results."

The *Red Currant* is the most highly flavored; but the *White*, being larger and not so sour, is by many preferred to the former. In the Catalogue of the Horticultural Society of London, are enumerated nine varieties of the red and four of the white currant. Loudon says, "the best are the *Red Dutch*, *Knight's large red*, *Knight's sweet red*, and *Knight's early red*. The best white currant is the *White Dutch*." But rich soil, clean culture, and good pruning, has doubled the size of our common varieties.

The Gooseberry

Is propagated by cuttings like the currant. To succeed well, it should grow in very rich soil. Pruning the gooseberry is of still more importance than that of the currant. The following directions are from Bridgman:

"The shoots retained for bearers should be left at full length, or nearly so; the first pruning should be done before the buds swell, so as not to endanger their being rubbed off in the operation. Cut out all superfluous cross shoots, and prune long ramblers and low stragglers to some well placed lateral or eye; retain a sufficiency of the young well situated laterals or terminals, to form successional bearers. In cutting out superfluous and decayed wood, be careful to retain a leading shoot at the end of a principal branch. The superfluous young laterals, on the good main branches, instead of being taken off clean, may be cut into little stubs of one or two eyes, which will send out fruit buds and spurs. Some persons, not pruning the gooseberry bush on right principles, cause it to shoot crowdedly, full of young wood in summer, from which the fruit is always small, and does not ripen freely with full flavor; on which account it is an important point in pruning, to keep the middle of the head open and clear, and to *let the occasional shortening of the shoots be sparing and moderate*. Between the bearing branches, keep a regulated distance of at least six inches at the extremities, which will render them fertile bearers of good fruit."

The gooseberry is cultivated with greater care and success in England than elsewhere; and Lindley enumerates 722 varieties, some of which have furnished specimens of single fruit weighing an ounce and a half. But most of the English varieties, and especially those of large size, are unadapted to culture in this country on account of mildew; and neither culture, pruning, nor any other remedy has been found that can be relied on as a remedy. There are some medium and smaller varieties, which are entirely free from it, and these chiefly are to be recommended here. Sufficient information however as to their names, has not been obtained for a list to be given.

J. J. T.

PLOWING ORCHARDS,

If well done, and the trees not run over nor lacerated, is found to be a difficult work. To make it easy, get a short one horse whipple-tree about fifteen inches long, and attach one of the horses by long traces to the plow; fasten the other horse before it, and let them go *tandem*. A careful boy or man rides the forward horse, and another holds the plow. After the intermediate space between the rows has been plowed in the usual manner by horses abreast, as near to the trees as convenience and care will admit, finish the rest with the tandem team, rigged as just stated. The long traces will allow the plow to run as near the trees as is needed, and the short whipple-tree can scarcely be made to touch a tree. Well tested by experience.

J. J. T.

THE GLANDERS.

Messrs. Editors.—Whilst writing, I will mention a fact for your Veterinary department. More than 30 years since the glanders of the most virulent kind, was amongst the horses of the neighborhood in which my father lived. Great numbers died off. His horse was taken, and under the belief that he also would die, my father commenced an experiment on him with a strong decoction of tobacco juice, given internally. In a short time the horse broke out all over his body in sores. These cured up in a month or so, and the horse was sound, soon fatted, and was, as long as I knew him afterwards, a sound and healthy animal. This was the only horse in all the neighborhood that recovered. Some farmers in this vicinity, noted for fine sleek horses, give occasionally Scotch snuff to their horses.

J. B. Cook.

---

* These two varieties require protection in winter in the vicinity of Boston, by bending down the branches and covering them with earth; but this care is not generally needed in this State, except for the Yellow Antwerp.

LETTER FROM ALABAMA.

EDITORS OF THE CULTIVATOR—In several numbers of the Cultivator, you speak of potatoes, particularly as being useful as food for cattle. Now will you have the kindness to inform me what kind of potatoe you mean. We of the South, when we speak of potatoes, invariably mean *sweet* potatoes, not Irish potatoes. Had it not been for my lady, I would have gone to work in earnest to feed my cows on sweet potatoes. She suggested that the *Irish* potatoe was meant.

I deplore the death of Willis Gaylord. Such men are not the product of every age. How much more praiseworthy are the deeds of such a man, than those of the mere politician. Our State would be benefitted by such a man being within her borders. We have extensive resources yet to be developed, and it is necessary to have some one to call public attention to the important consideration of the full development of our agricultural resources. In other words, Alabama needs a Willis Gaylord.

In this connection, I would drop a word to the farmers of Alabama, knowing that many of them are subscribers to your valuable periodical.

Our State is considered one among the wealthy States of the Union, and this wealth is to be attributed to her agriculture. But few, if any, of the States, have been so exclusively engaged in the cultivation of the soil as this State. The profits of her agricultural products have exceeded those created by other pursuits of human industry. Of her improvement in the modes of cultivation, much cannot be said. The reason of all this is obvious. In the early settlement of the country, as indeed of all countries, the greatest inducements were held out to the settlers to engage in the occupation of tilling the soil, owing to its extreme fertility. By such tillage, even after deducting all the expenses of transportation to a distant market, their annual increase in wealth far surpassed what could have been accomplished by the most untiring labor of persons living in older countries. The early settler in Alabama, as is now the case in Missouri, Arkansas, Wisconsin or Texas, having many privations to contend with, looked to the fertility of the soil, 'the bright star of his hope,' as a recompense for the dangers and difficulties by which he was surrounded. And he but seldom looked in vain. Read the history of our early settlers, and you will read the history of many of the most influential and wealthy men in our State. They were not distinguished for their skill in farming, nor particularly for persevering industry in their employments. Still they prospered as 'a vine planted in a goodly soil.'

Two views are presented to us in contemplating the history of the early settlers of this State. They became wealthy, because of the fertility of the soil; and they were economical in the use of money.

If the farmers of the present day would grow rich, they must follow the example of these early settlers in cultivating a rich soil. In order to do so, their lands must be improved. Enrich the soil of Alabama, and you will have a country not surpassed by any on the globe. Every means to facilitate commercial, manufacturing, and agricultural prosperity are amply provided throughout the length and breadth of the land. In regard to commerce, we raise here an agricultural product which has never failed to bear a marketable price in any quarter of the globe. So valuable in this respect is it, that it has already, to some extent, become a medium of exchange between this country and Europe. I allude to cotton. This product of the soil of our own and the adjoining states, is now considered a fairer representative of gold and silver than the notes of the banks of those states respectively, although their faith and honor are pledged in behalf of the banks. This is not said with the view ot disparaging state banks, but to show that this product which we cultivate at our very doors, is esteemed more valuable in the markets of Europe than a pledge of gold and silver, though that pledge be made by the most wealthy State of this Union. Having so valuable a commodity with which to freight our vessels, every harbor in the world is open to receive them.

The water courses of this State are well suited for manufacturing establishments, whenever these may be required. I understand that a contract has been entered into by some wealthy individuals to establish a spinning factory at the Falls of the Tallapoosa river. The water power is extensive, and no doubt at this spot will grow up a large manufacturing town. I am not an advocate for establishing large manufactories within the State at present. Our agricultural advantages are much greater than in the older States and in Europe, and they can engage much more beneficially in manufactures than we can, owing to the cheapness of labor there. If we, therefore, establish manufactories here, we bring high wages in competition with low wages—a want of skill in competition with skill carried to its greatest perfection.

When I speak of our agricultural advantages as compared with Europe, I have reference to the price of lands, by means of the cheapness of which, the great mass of our population may engage in tilling the soil. No one acquainted with the subject doubts, but that tillage is carried to greater perfection in Europe than in the United States, at least in the southern states. But if we will make the comparision, we will find that to the sum total of human pursuits, agriculture bears a greater proportion in this State than in most European countries.

With these multiplied advantages, let us use proper efforts to improve the productiveness of our soil. "So shall thy barns be filled with plenty, and thy presses shall burst out with new wine."

Nations or individuals, to become prosperous, must be economical in the use of money. The history of every nation proves that an extravagant expenditure of public money, has been the fore-runner of the decline of most governments. And the history of individuals shows that a wasteful use of money, is a too frequent cause of ruin to many.

I will not produce arguments to show that economy is a blessing and extravagance a curse. The experience of any man who has reached thirty years of age, and is possessed of an ordinary understanding will respond in the affirmative. A farmer, to be economical in the use of money, must by proper care prevent the necessity of paying out money in the way of expenses; or in other words, he must live within himself. In order to do this, it is not necessary that he should make all he needs. By no means. But it is essentially necessary that he should make his expenses conform to the amount of his annual income—just as a nation's imports should not exceed its exports.*

This may be considered an eventful era in the history of agriculture. The increased attention that has been given of late to the modes of cultivation, to the improvement of stock of all kinds, and to the interests of husbandry in general, promises a rich harvest to those who are deriving their support from these sources. Nothing has contributed more to effect this, than the establishment of agricultural societies throughout the country. From England, America took the example, and Alabama sho follow in the footsteps of the older states in this lauda enterprise. Although the State Agricultural Society Tuscaloosa departed this life in its infancy, still we ha reason to hope that the people of the State will again aroused to the importance, the vital importance of these societies to the general interests of farming.

---

* What is called the sweet potato and the Irish potato are vegetables belonging to entirely different classes—and perhaps we are not quite *scientific* in calling them both potatoes. The potato, strictly, belongs to the class *Solanum*, (*Solanum tuberosum, L.*), while what is called the *sweet* potato, belongs to the class *Convolvulus*, (*Convolvulus batatas, L.*) In this section of country, we mean the first of these when speaking of the *potato*, either as food for man or beast. Personally, we know nothing of the value of the sweet potato as food for animals; but we were lately told by a gentleman from the South, that it had proved to be excellent, and it was his opinion that no vegetable could be so profitably cultivated at the south for feeding animals. It will produce abundant crops on the sandy soil of that region, where the common potato and most of the root-crops raised at the north would be good for nothing.

* It has been contended by some that a nation's imp should exceed its exports. The fallacy of this doctrine I h not time now to examine. The doctrine in the text is suppo ed by all the writers on political economy I have ever se Will Mr. Watts, of Butler, favor the readers of the Cultiva with a defence of the contrary opinion ?

They add dignity to that occupation. All the learning and talents of the farming community are brought together, and from mutual action of mind and mind, each one receives a proportionate share of improvement. This principle holds true in mercantile, manufacturing or professional, as well as in agricultural communities. Even among politicians we perceive the operation of the same principle in that notorious invention, called the 'caucus system.'

I agree with Prof. Newman, "that no member of a civil community is, in the strict sense of the word, *independent*." "If there is any one truth," says he, "taught more clearly than all others in the science of political economy, it is the mutual dependence and close connexion of the different members of a civil community upon each other." "The eye cannot say to the hand, I have no need of thee; nor again, the head to the feet, I have no need of you." Notwithstanding this, the independence of a farmer's life has become proverbial. His of all others, is least dependent on commercial or manufacturing industry. His flocks and his fields yield him the necessaries of life, and the rural simplicity of his habits makes him require but few of its luxuries.

> "At night returning, every labor sped,
> He sits him down the monarch of a shed;
> Smiles by his cheerful fire, and round surveys
> His childrens' looks, that brighten at the blaze
> While his loved partner, boastful of her hoard,
> Displays her cleanly platter on the board;
> And haply too some pilgrim thither led,
> With many a tale repays the nightly bed."

Do we ask for an example in some great nation of the earth in respect to the attention necessary to be paid to farming? *England* is one. She is the mother of improved cultivation. Having signalized herself in fighting on every coast that is washed by the ocean—having reached the climax of parliamentary greatness, and honored her arms by the brilliancy of her intellect—

> "The land of scholars and the nurse of arms,"—

now thinks it no disparagement to her fair fame to strive for pre-eminence in agricultural improvements. Her Berkshires and her Durhams show the extent of her success in that department of domestic economy.

The spirit of emigration which has for several years characterized this and the adjoining States, presents a formidable barrier to extensive improvement of any kind. With many persons, not even useful and economical arrangements for domestic comfort are attended to. With such persons, the constant effort is to enlarge their fields. Each successive year brings an increase of acres, but a diminution of fertility, until the scene closes with a 'sale-day,'—the prelude to a removal to the great west. If this spirit prevail, Alabama will soon become an impoverished state, for her soil cannot always bear the burden of constant tillage without some return to restore its exhausted strength This spirit may be counteracted by exciting a zeal for improvement of the soil and its products. This will introduce a greater abundance of the comforts and luxuries of life, and one is loth to leave a place that is adorned with the monuments of his own industry. Attached to the soil—we love and venerate the institutions of our country.

> "Such is the patriot's boast where'er we roam,
> His first, best country ever is his home."

Will you give an account of where the best breeds of the Poland chickens (*crested* fowls—see Cultivator Feb. number, page 57) can be had—the same request I also make in reference to the Shepherd dog.*

I must close this rambling letter. I may at a future time send you another.

Very respectfully yours, * * *

Man at the best is but a composition of good and evil. Diamonds have flaws, and roses have prickles, the sun has its spots, and the moon its shade.

APPLIED CHEMISTRY:

In manufactures, Arts and Domestic Economy; edited by E. A. Parnell, author of "Elements of Chemical Analysis," &c. Publishing in monthly numbers by D. Appleton & Co. 200 Broadway, New-York.

Five numbers of this work have appeared, and they enable us to appreciate its importance to the people of the United States. The work is edited by E. A. Parnell, well known in London as the author of "Elements of Chemical Analysis." The reprint of the work by Appleton & Co. cannot fail to be advantageous to the arts and manufactures of our country.

The numbers before us contain some preliminary observations, and the history, progress and present practice of gas illumination, the preservation of wood, and the arts of dyeing and calico printing. These subjects are interesting to the general reader, and demonstrate the intimate connection between science and the practical arts of life. Chemistry particularly is applicable to all the arts as well as to agriculture. The subjects which are admirably well treated in detail in the numbers of the work before us, are not immediately connected with husbandry, yet we find that the cultivation of the earth supplies resin and oil which may be employed in producing gas lights, and dyeing drugs which are applied in the arts of dyeing and calico printing. The preservation of wood is interesting to the farmer, and the treatise on this subject shows the various and most approved methods of securing from decay, wood and timber for the construction of ships, houses, barns, fences, &c. We are given to understand that some of the future numbers will have a more direct bearing upon agriculture, and we patiently wait their arrival.

A PRACTICAL FARMER.

NORTH CAROLINA.

EDITORS OF THE CULTIVATOR—I have thought that it might be satisfactory to say a few things in favor of the claims of western North Carolina, to those inclined to move southward.

1. *Climate and Health.*—A glance at the map of North Carolina will show the location of Iredell county, and Statesville its county seat. From a few miles east of the town to the mountains, is a belt of country as healthy perhaps as any part of the world—as free from fevers as the mountains, and much less subject to imflammatory diseases. Its atmosphere temperate and pleasant.

2d. *Soil, &c.*—The general character of the soil is good, and readily susceptible of improvement. Wood land abundant, the growth of which is the different varieties of oak, of good size and quality, hickory, pine, poplar, &c. The soil is generally somewhat mixed with sand, resting on a clay subsoil, adapted to the culture of corn, wheat, oats, tobacco, roots, &c. The country is well watered, abounding in streams well adapted for machinery, &c. Price of land from $1 to 7 or $8, owing to location and other advantages.

3d. *Moral aspect, &c.*—There are comparatively few slaves in west North Carolina. Wealth pretty equally distributed. Hospitality and sociability characterize the people. The mass of the people cultivate their own farms themselves. Manual labor is not regarded as disreputable. Moral excellence and not wealth is, to a considerable extent, the test of character. Educational and religious privileges depend on the location. The settlements originally peopled by the Scotch-Irish from Pa., have flourishing Presbyterian churches and regular preaching, Sabbath schools, &c. They also have good common schools and academies. The state has commenced a system of common schools which will eventually greatly aid the cause of education. The Methodists and Baptists also have churches throughout the country.

By giving a place to the above in your columns you may oblige many of your subscribers. Should farther information be desired, it will cheerfully be rendered by corresponding with the Postmaster at Bethany Church P. O., Iredell county, N. C. W. A. D.

By energy and honesty men become prosperous and happy.

---

* There will be plenty of the Crested fowls to be had here in the fall—at present we do not know of any to be sold in this vicinity. We have understood that a man a few miles from here breeds the shepherd dogs—we will inquire.

AGRICULTURE OF SEEKONK.

Messers. Editors—I offer to you for insertion in your paper, a statement in regard to Seekonk, in Bristol county, Mass., its productions, the market for the same, cost of production, and the farm capital required there, for common cultivation, &c.

Production, &c.—The usual articles produced in Seekonk, are corn, rye, oats, potatoes, onions, carrots, hay and vegetables. These articles, for the most part, find a sale in Providence. Seldom is any thing sent to Boston, except poultry, and of late less of that than in former years. Much greater attention is now paid to the preparation of manure in the barn-yards; and compost heaps, with rock and seaweed manure, swamp and beach mud. This manure is worth $2.00 per cord. Manure in large quantities is brought from Providence at the cost of $3 or $4 per cord. Besides a large amount of *night soil*, also brought from that city. The land is and has been greatly exhausted by hoeing in winter rye, and leaving the land in corn hills without hay seed. There are but few sheep in the town, and but little flax or hemp is raised for sale. The cultivation of fruit as *such*, in the vicinity of Providence river, is not attended with much profit. The apples here raised are mostly made into cider. Beef and pork are raised for the consumption of the inhabitants merely. Seekonk furnishes yearly about 1,000 barrels of potatoes, and probably 1,000 bushels of onions to the merchants of Providence for shipping. There is greater attention paid to the repairs of buildings, &c. embracing the health and comfort of both man and beast. The cost of cultivating one acre of corn, with the operations of plowing, planting and hoeing, together with twelve loads of manure, at $1 per load, (the fodder being estimated to pay for harvesting,) will be about $20 per acre. In 1843, one farmer here planted three acres in corn, put forty loads of manure on it, plowed and planted it four feet between the rows, and three and a half feet apart, at the cost of $24 per acre. Cost of manure $40. Harvested therefrom 50 bushels per acre.

FARM CAPPITAL.

Live Stock.	
1 yoke of oxen,	$70 00
6 cows at $25 each,	150 00
2 horses at $75 each,	150 00
4 yearlings,	40 00
10 sheep at $1,	10 00
6 shoats,	18 00
12 fowls 25 cents,	3 00
3 turkeys, 75 cts.,	2 25
	$443 25
Farm Implements.	
1 wagon,	$75 00
1 cart,	50 00
2 harrows,	15 00
1 plow,	9 00
1 horse do.,	7 00
6 rakes at 42 cents,	2 52
2 dung forks,	2 00
2 pitch forks,	1 50
2 shovels,	2 00
2 wood axes,	2 50
4 hoes,	2 00
1 Iron bar,	83
2 oxchains,	3 00
1 set of horse chains,	3 00
1 bridle and saddle,	10 00
Ox yokes and bows,	2 50
3 scythes,	2 50
3 snaiths,	1 50
2 sickels, 42 cts ,	83
1 cultivator,	4 00
1 churn, cheese press,	3 00
Garden spade and iron rake,	2 00
1 horse wagon, &c.,	60 00
Live stock,	$443 25
Farm implements,	261 68
	$704 93

Rockweed will cost here $4 per cord, which it is worth when pulled off the rock. Seaweed if carted two miles with four ox teams will cost $2 per cord.

In the vicinity of Boston four or five cords of manure per acre at least, and in some instances more are regarded as requisite to advantageous or successful farming—that is taking into view the permanent impovement of the farm; and by many this item ought to be marked as capital, and perhaps in reference to the actual cultivation of vegetables, &c. it ought to be included under capital, while in mixed husbandry I should be inclined to class it under the head of the necessary expenditures. Something ought to be set down for the necessary furniture, which depends very much on the pleasure, disposition, or objects of the farmer; though in my opinion it ought to be put at $50 to $75. In regard to repairs, blacksmith work, labor, &c. you have as good means of forming an estimate as myself.

Cambridge, April, 1844. Wm. Jennison.

More old men are found in elevated situations than in valleys and plains.

GRAFTING.

I noticed with some surprise in an article in the 5th number of the Cultivator, a recommendation to graft always on a short stump not more than an inch above a strong lateral shoot, which shoot is to be left growing for one entire year afterwards. Observation, it is stated, has proved its success.

Having inserted, in my day, many hundred grafts, I am compelled to say that however successful this method may have been, a different one has proved much more so. Why is it that in grafting a small tree, every nurseryman is always careful to rub off all the buds os shoots on the stock? If this is not done, the communication between these shoots and the stock being complete, and between the stock and the graft very imperfect, all the sap will flow into the former, and the latter will dwindle and perhaps die. The sap must be thrown into the graft, or its buds cannot swell. They must swell, or the new leaves cannot be formed. And unless these are formed, the carbium or newly hardening wood cannot be sent down to make a permanent junction between the stock and graft. Who has not observed a graft, even after its buds had expanded, remain stationary in growth, by the side shoots around it abstracting all the nourishment from it, instead of imparting support to it? The side shoot, which "E." recommends, and the graft, are both feeders from a common fund or stock; but the former, for the reason just given, is rapid, hungry and voracious, while the latter is at first, a very sparing and delicate feeder. I imagine, then, that this side shoot is going to help the graft, would be about as absurd as to suppose that a strong hungry pig would fatten a weak and sickly one by eating from the same trough.

As for the alledged nourishment which the graft gets from the leaves of the side shoot, "E." himself shows unintentionally, that this cannot be; for why, as he says, does a closely cut wound heal over speedily, while a short stump does not heal? Simply because in the latter case there is a *fork*, and juice can no more flow from the leaves, down one branch, and then up another however short, than the waters of the Monongahela can flow down to Pittsburg and then up the Alleghany. X.

THE NEW VOLUME OF TRANSACTIONS.

An eminent philanthropist of this state, who has been for many years a most strenuous opposer of capital punishment, has lately remarked that he thought of changing his mind—as his communications for the press are so horribly mangled and murdered by the mistakes of the printers, he thinks if any body deserves hanging they are the men. It is not my business to say whether he is right or wrong; I have, however, just been strongly reminded of his remark by looking over the last volume of the Transactions of the State Ag. Society, where on page 504 the writer is made to say that he spreads several bushels of *potatoes* [instead of *plaster*] over his compost heap;—on p. 205, where the *exuded* sap, is printed "*excluded* sap;" on p. 449, where it is remarked that the soil is sandy, and *generally* loam, instead of *gravelly* loam as intended;—on page 454, where Gilson's Root *Shears* [*slicer*] is mentioned,—and others equally amusing or provoking, as the reader's temper may chance to be. X.

Editors Cultivator—Permit me to ask your respected correspondent "Junius," who writes so feelingly on the subject of applying pretty names to ugly cows, if he intends also to exclude ugly and unamiable human beings from the benefits of those good names? Or is a cross woman never to have any name at all? Now as I happen to know of some specimens of the latter class, that are infinitely more debased, sunken, and self-degraded, than any of the lower orders of animated beings, which though they perfectly fulfil the purposes of their creation, excite so much horror in the mind of "Junius," I wish to know whether he as arbiter-general of all female names, will permit such to have even a well-sounding name, as "Emma" or "Julia" or no name at all. I wish to avoid controversy, and hope he may answer "Yes," or "No," as the case may be, or at least write no more than I have done. Brutus.

BOSTON CENTRE-DRAUGHT PLOW.

Messrs. Editors—I have read with much interest the communication of J. G. B. in your last, on the "Boston Centre-Draught Plow of Prouty and Mears," in which he notices some peculiarities, which, in his opinion, require obviating, although he admits his conclusions "are not the result of any experience with the plow, but are formed, simply by seeing the excellent plate in a former number of the Cultivator." Now, with all due deference to your correspondent, I must take leave just to observe, in a court of inquiry, no witness is permitted to proceed one step, after confessing that he knows nothing about the subject by *experience*, but merely as matter of *opinion*. But let that pass, and allow me to say a few words in defence of an arrangement which I have found, by the test of the fullest examination and repeated trial, to be perfect in all its parts.

And first, "the fastening extending down from the back of the standard," does *not* interfere with the operation in very deep plowing, and therefore the plow does not require the beam to be raised, which would destroy the symmetry and proportion of the most elegant implement that was ever constructed. I was, the past week, engaged on trial in the heaviest and most difficult soil in Lancaster county, Pa., against the favorite plow of that neighborhood drawn by three horses abreast, in turning in a first crop of clover of the strongest growth, which required to be dragged down before the implement could be made to touch it; taking then the whole strength of the team to accomplish it, with a furrow from four to six inches deep, but by no means subverting it so as to cover the crop; while with the Centre-draught No. 5½, new gearing, without dragging the crop, and by the aid of two of the horses only, it was just the easiest thing in the world to turn the crop completely under, to the regular depth of seven inches, the horses absolutely not feeling the labor or losing their breath, much less "turning a hair." The company, many of them neighboring farmers, desirous of seeing how large and deep a furrow so small a plow could be made to turn, the wheel was let down, when the furrow-slice, measured on the spot, was found to be 11 inches deep and 16 inches wide; the fastening extending from the standard not interfering with the operation in the least. And more than this, the plow carried over this enormous mass, burying the whole of the vegetable matter by the aid of a drag-chain, and placing it *hors-du-combat*, without any one touching the handles, for a considerable space, to the admiration of every one present. Here also was a trial of the strength of the wheel attached to the side of the plow, for the land was so rocky that it was often brought up all standing by large stones sunk below the surface as well as above it, and entangled by the heavy crop of clover, so that the wheel was often buried out of sight; proving that the single strap is sufficient for the purpose of permanency and security. This trial took place on the farm of Mr. Moses Burton, Salisbury township, about a mile and a half from the Gap, and in presence of many of the first agriculturists of the county, amongst whom were Mr. Caleb Burton, his brother and son, and W. Penn Kinzer, Esq. of Spring Lawn; and in the hands of these men, the plow did, indeed, "do all but talk." The same plow had been used the day before in turning the sides of the high road, no other land being to be obtained; and here, by the hands of a lad 12 years of age, the son of Mr. Mark Cooper near the village of Enterprise, the work was performed with perfect ease, the wheel and rod extending back beyond the standard, enabling *the child* to manage her with surprising skill and accuracy.

The observation, that different soils require differently constructed plows, is perfectly admissible as a general axiom; but the Centre-draught plow works on so very "different" a principle to that of every other, that to judge of its powers and capacity it must be seen and felt; and until then, I should despair of being able to convince your correspondent of the fact. The Centre-draught plow of Prouty & Mears is indeed a self-sharpener in the best acceptation of the term; for after five trials on the most difficult soils, the point of the share was scarcely rubbed, and by no means required turning; while the owners of many of the favorite plows in the neighborhood admitted, that on such soils, every second day at farthest, their points required renewing, at the cost of sixteen cents; expressing astonishment to find that a double point and share of No. 5½, at the charge of 62 cents only, are found to turn from 60 to 80 acres, and often more. Your correspondent's account of the mode in which the only sharpening process is conducted, by the renewal of the parts, is lucid and satisfactory; it is proper to observe however, that the wing or share of the Prouty plow is made to move also; it is therefore sharpened, as well as the point, by the same operation.

That Mr. Bergen's plow is the best for green-sward, "especially if the soil is old and tough," that your correspondent has ever seen, I have no doubt; but he must *see* the Boston Centre-draught perform that service before he can form an idea of the perfection which has been obtained in that all-important operation—it would be vain to attempt to describe it; the "age and toughness" of the sod being quite an indifferent circumstance. His remarks, regarding the proper angle of the mouldboard for turning soils of different kinds, with the admission, that with those in common use—not excepting the Bergen, I presume—some soils will always be found to adhere, are, I have no doubt, perfectly correct; and I consider it would be a much easier test to travel a hundred miles to convince him by occular and tangible demonstration that these do not apply to the Centre-draught, than to attempt to overturn his opinion by any thing that I have it in my power to say; I would therefore cheerfully take such a step to obtain a trial, he being constituted judge, with a jury of 12 honest and practical men of the neighborhood; it would then be easy to show the perfectly different principles upon which the Centre-draught plow is constructed, but which are at present so little understood: in short, it is "spade labor," which is now universally admitted to be "the perfection of good husbandry."

In conclusion I would add, while your correspondent recommends the Bergen plow for its superiority in *ordinary* soils, I claim it for the Boston Centre-draught with the new gearing, for those of every description, ordinary as well as extraordinary, heavy, light, sod or corn-ground, wet or dry, crop or no crop; and ask leave to use his very expressive and descriptive terms of commendation. "Its advantages are, lightness of draught, strength, economy in the cost of sharpening, and the capacity of performing the best work in green-sward; durability, for the friction being easy, the mould-plate will wear well, while the advantages of the improvements of the wheel and the new gearing attached to it," are emphatically its own, and cannot be applied to Mr. Bergen's plow—much as it might require its aid—without fraud and robbery; other "Patents" lying under the same predicament. Who was the inventor of the self-sharpening principle, is a question that cannot be solved at this time of day; I presume it was concocted long before Mr. Bergen's entrance into existence; I know at least a dozen who conceived themselves entitled to this distinction, the inventors of the Centre-draught, however, not claiming it, the patentees considering it honor enough to have *invented* the best and most important mode of applying it, and enabling its possessors to plow their lands at the expense of less than one cent per acre for blacksmith's bills; and by these and other improvements—the foremost of which is the new gearing, so faithfully and beautifully portrayed in your invaluable page—to save, by superior culture, after tillage and increase of crop, about the cost of a new implement on every 25 acres of land worked by it, whether the soil be ordinary or extraordinary in its texture and consistency.

Montgomery Co., Pa. CENTRE-DRAUGHT.

P. S. If your correspondent be really a practical man, desirous of "seeing" the operations of the Centre-draught, I would not consider the pleasure of an interview over paid for, by the expense of a journey of many miles to accomplish a wish that would then be mutual. I attach my real signature, which you will please make known to your correspondent in this case, and present him with my respectful consideration.

THE SUGAR CANE AND CORN-STALK SUGAR.

Messrs. Editors—An article in the Cultivator, (May number,) page 150, calls for, and is deserving a reply from me; and although you are probably ere this, in possession of a more full explanation from me in Mr. Ellsworth's (the Commissioner of Patents) Report, page 159, I will briefly explain:

In attempting to make sugar from corn-stalks, we too, were disappointed in not being able to effect granulation. Probably if we had lowered the knives, or waited a few days for it to have ripened higher, it would have granulated, and the juice would have been sweeter; though 8 degrees specific gravity is a good average for cane.

The odor from the kettles while boiling, was very offensive, and the flavor of the syrup disagreeable and well expressed by Mr. Patterson of Tarentum, Pa. If, as you state, "soon after a critical period, the sap changes, and cannot be made to granulate," this would greatly hazard the crop, for a rainy season might prevent its manufacture at that period.

Again. Our crop was by no means extraordinary—2,750 pounds per acre is not extraordinary. It was good; well cultivated, and on good ground, though not manured, except the trash for ten years had been left to pulverize on the land instead of burning it off as is the custom here. There is a difference between plant cane and rattoon cane. It is considered good economy to cultivate rattoon cane when it will yield 1,000 pounds per acre or even less; because it requires so little cultivation or no planting, and ripens early. 1,000 pounds may be the average per acre of the crop in Louisiana. A good planter will make more. Plant cane on good land, well cultivated, will average from one and a half to two hogsheads, say from 1,500 to 2,000 lbs. per acre, often more. 4,000 lbs. have been made where the ground was well manured, on an acre. I am speaking of facts. I know sugar planters may deem it bad policy to make these statements; fearing lest other sections of the country may suppose sugar planters are getting rich too fast, and be induced to lower the tariff. But if it be so, why is not the cultivation more extended? Why not make less cotton and more sugar. There is ample good sugar land in the sugar district in Louisiana to supply the whole country. I hope the experiment on corn sugar will not be abandoned till it be fully tested on a large scale at the north. Let only those who are able to lose, first try it. I feel sure it will prove a losing business.

In comparing our poorest yield to your best, many may be deceived. Shubael Tillotson.

New River, La., May 24, 1844.

THE VERMONT STUMP MACHINE.

Editors of the Cultivator—When I first saw a draft of the Vermont Stump Machine, in the October number of the Cultivator, I resolved to make one, which I accordingly did the past winter. It appeared to me a very unwieldy thing, and as my land was uneven, I thought it not firm enough to answer the purpose. To obviate this difficulty, I made it somewhat different, and I think better. The machine is much smaller than the one described in the draft. The wheel is only 8 feet 5 inches, shaft 11 inches, upright parts 7 feet high, and standing 8 feet asunder. I framed a piece 5 by 7 across, just near enough the tops of the posts to allow room for the shaft and chain to work, braced it at the corners with old tire, 2 feet long, a ¾ bolt through each end, and through the upright and cross piece, which holds it firmly together. I then hollowed out the tops of the posts so as to lay the shaft in them. The wheel works outside of the post as near to it as possible. Thus the objection urged by a correspondent, that it would crush down, is removed; and even on land that is hilly, by going up and down, it will work pretty well. Some of my friends ridiculed the idea of drawing stumps with such an article; but their notions were changed when they saw it in operation. I consider it a valuable invention. The stumps that I undertook to draw had been cut some 4 years, and not large. After breaking some of our common log chains, I procured one made out of ¾ inch bar, which I think will stand a stronger machine than mine: but on putting a double team to the rope, I broke the arms of the wheel; so I let it stand, and planted my corn, intending to renew the operation again. The arms were only 2 by 6 inches. I think a machine can be made strong enough on this principle to draw any ordinary stump after being cut 3 or 4 years. If any one thinks it too much on one side, which might be the case if the wheel is large, let him put a wheel at each end of the shaft outside of the posts, which will balance. He then may apply force to one or both wheels as the case may require.

Chester county, Penn. 6 month 3, 1844. J. W.

N. B. I think the machine described in the February number of the Cultivator, is about the right size. If he would frame a piece across, it would not require propping on the side of a hill, nor would the oxen pull it to pieces so easily. The piece may appear in the way, but the shaft being much larger, it will not be much obstruction to the chain.

SOUR SOILS.

I have just read the article of "A. J. P." in the last number of the Cultivator, and I wish to invite his attention to one fact, which though not decisive perhaps on the subject, is certainly worthy of consideration. This fact came under my personal observation last year, and is as follows. On the farm of Dr. C. S. Button, of Newark, Wayne county, N. Y., there was laid, ten years ago, about 150 rods of lead pipe for the conveyance of the water of a spring, from a hill side over a valley, to his dwelling. The water ran freely for nine years, and then became obstructed. The pipe was examined at various points, and found perfectly sound and uninjured, except on a part of the hill-side, where an abundance of sorrel grew (*Rumex acetosella*); here it was strongly corroded, and in several places actually eaten through, which caused the obstruction. This fact was the more striking, as all the other parts of the pipe were so little injured by time that even accidental scratches upon the lead remained unaltered.

It can hardly be supposed that the corrosion was caused by the acid actually existing in the plant, brought into contact with the pipe, as the latter was buried from two to three feet below the surface.

A. J. P. states that lime, "even if applied in immense quantities," does not prevent the growth of sorrel. Lime, however, has been found greatly to lessen its growth. On the grounds of W. S. Dell of Junius, Seneca county, N. Y., which partake of the character of what is generally known by the term *sour soils*, and where sorrel grows abundantly, the plentiful application of lime has, with the exception of a few straggling plants, caused its entire disappearance.

There are some plants which are regarded as existing solely on sour soils; among these is the yellow pine, which immediately perishes if removed to those of a different character; and even when a body of earth is carried with its roots, it only survives just so long as the roots are confined to this body of earth. The effect of lime on such a tree in its native locality, would be interesting to know. Sorrel (*Rumex*) will grow on land where the yellow pine perishes. Hence perhaps the reason lime does not wholly remove it.

The preceding facts of course are not intended to decide this question, but rather to keep it in a state of suspense, until more is known. The great difficulty of determining the constituents of the soil, and their various combinations, are not always duly estimated; the single fact, that distinguished chemists have made out, as they supposed, some twenty different substances constituting that particular portion of soil known as vegetable mould, and are still at variance on the subject, shows that these are matters not to be settled in a day.

Macedon, N. Y., June 10. J. J. Thomas.

To remove grease spots from a book, apply a quantity of pulverized prepared chalk or whiting, to the paper on one side, and then warm and melt the grease by a hot flat iron on the other side. As soon as the grease thus becomes liquid, the chalk will absorb it.

THE SETTLER IN A NEW COUNTRY.

Messrs. Editors—I have seen in the Cultivator some inquiries as to the best mode of clearing land, and the general management on a new farm, and I am half inclined to give you my notions on the subject; merely premising that if I could wield such a pen as your correspondent Solon Robinson, whom may Heaven long preserve, I should feel much more confidence that this paper would not be consigned to your Baalam box.

It is now some forty-three years since I left the old homestead in the land of steady habits, and with tolerable spirits, but less money, made my way to one of the interior towns of this State, then on the verge of the white settlements, and into which some three or four families had the year before preceded me. A lot of 100 acres was selected, on which an axe blow had never been struck, and which was a mile from the nearest neighbor. Deep, dark, and majestic were these primeval forests; and a formidable undertaking it was to be buried in them, with the hope of working one's self out into the light of day, and the rays of the glorious sun. But few were the places in those days from which a glimpse of the country around could be seen, and where such glimpses could be had, nothing met the eye but one vast unbroken sea of foliage, with perhaps a few blue smokes curling up through the tree tops, and showing where some adventurer like myself had established himself.

The first undertaking was the house for the family. A fine clear spring determined its position; a small space was cleared of the underwood, and a house made of logs and covered with boards was soon constructed. Lonely were the first nights passed in that pioneer building, with the wind moaning through the tall trees that overhung the humble residence; the light from the wood fire that burned at one end of the earth floor, throwing its fitful flashes through the crevices, upon the massive trunks that stood like giant sentinels in the gloom; and the owls scared from their retreats in the hollow trees, or attracted by the unwonted apparition of such intruders on their solitudes, held a clamorous serenade of tu-whit! tu-whoo! in all its modifications, about the dwelling. It was truly a serious matter to contemplate the vast amount of labor that would be requisite to fell, burn, or remove the forest covering of the soil, and convert the wild woodlands into fruitful fields; but willing hands and stout hearts were brought to the work, and while the merry ring of the axes were heard on every side, the "opening" spread apace, and the fears of the women that some unlucky tree might crush in its downfall the rude hut, were speedily dissipated by the prostration of all from which such a danger could be apprehended.

It was the beginning of summer; the heavy foliage wore its freshest green, and the elm, maple, and linden, were successively laden with flowers. Never shall I forget the rich, the indescribable perfume which filled the air, as tree after tree was cut down, and day after day passed, before the blossoms had ceased to exhale their odors from their withered cups. A practiced woodsman had the direction of the 'chopping,' and under his guidance acre after acre was prepared for the burning. The slope of the land, the proximity and inclination of the trees, all had to be considered, before the chopping was done, as on these things the facility of 'burning' and 'logging' was mainly depending. Where it was possible, some huge tree was felled, and upon, and parallel with this, all that could be made to reach it, or conveniently be piled upon it, were cut for this purpose. The brush was cut from the trunks, and piled carefully and separately into heaps, experience proving that the neatness of the 'fallow' after the burning, was much depending on this operation. Some 'choppers' neglected this piling of the brush, merely felling the trees, or perhaps lopping the branches a little, trusting to a dry season and a thorough burn, to save this additional labor; but nine times out of ten, the labor saved in the chopping, was doubled in the final logging and burning.

After the chopping was completed, the brush dried, and all hands ready, came burning the 'fallow.' For this purpose a hot dry day, with but a gentle wind is to be preferred; since the fire burns the cleanest in a dry day, and no matter how still the day may be, there will always be wind enough as soon as the fires are well burning. In setting the fires it is best to begin on the leeward side; unless the whole is so dry that when once kindled the fire will run over the whole ground, when the windward side may be taken. If the brush is well piled, and fully dried, little will be left after the fire, but the trunks of the trees, and in many cases a large portion of the smallest of these will be consumed. If the trunks were not cut up into suitable lengths before the burning, this work comes next; if already cut up, the 'logging,' or the rolling the logs into heaps preparatory to their being burned, may commence at once. In logging, three men are required to one team, two to roll the logs and one to draw them. If chopping is neat work, logging is the dirtiest that occurs in clearing land; and the tow cloth frocks and trowsers, are very apt to call down the anathemas of the washer-woman. In cutting up the timber, after the brush is burned, a sufficient quantity of the best kinds for fencing must be selected, and cut in suitable lengths for rails. Chestnut, red elm, butternut, basswood, &c., are generally chosen, where they can be had, and lengths of ten or twelve feet make the best rails for worm fence, the kind commonly constructed in new districts of country.

In the clearing of land, the disposal of the ashes left by the burning of the log-heaps is a matter of some consequence. They are scarcely needed on the soil; indeed if left as they lie in masses after burning, they are positively injurious, every settler in a new country knowing that no wheat grows in the places where the ashes of the log-piles are left. It is the custom generally to gather the ashes, and sell them to the potash manufacturer, or else construct leaches on the spot, and convert them into what are called black salts, and then these are sold, usually at a respectable profit. It is perhaps the best way of disposing of them, to scatter them with a shovel over the unburnt spaces of the fallow, as cultivated soils soon need all the alkaline matter that can be furnished them, and ashes are among the cheapest and most valuable of the class.

In sowing wheat on newly cleared lands great care must be taken to see that the wheat is properly covered around the numerous stumps that occur. If left to the harrow alone, there will be several feet around each that will produce no grain, and will be pretty certain to be occupied by some pernicious weed. A man should follow the harrow with a hoe, and see that the whole surface of the ground is stirred, and the seed in every place covered.

The first half dozen years spent by us on our new farm, and during which we encountered those privations peculiar to the pioneer life, were years of hard labor it is true, but now that we at our ease look back upon them, we could hardly from our whole lives, select the same number, in which we have enjoyed more positive happiness. Those who have always resided in places long settled, are often heard to wonder that so many of those who settle and cultivate our new districts, should be willing, as soon as their farms are cleared, and they can begin, as it is called, to enjoy life, to pull up stakes and again plunge into the wilderness to undergo the privations from which they have but just escaped. I do not participate in such feelings. I am not certain, that even now, I could not be induced to seek a new home in the woods; indeed I am certain of it, could the activity, health, and spirits of the past be recalled. I should not, it is true, crave the privilege of again being obliged to go twenty miles to mill; fifteen miles to a store, or a blacksmiths; or eighteen miles to a post-office; but I should like to have the pleasure of again seeing nature in her wild but comely undress; to see the beautiful red deer scarcely frightened by the presence of man seeking the fallows and the fields, as if inviting protection; to see the elements of society combining into a healthy and rational organization; to participate in that kindly, brother-like feeling, which is always found among the settlers of a new district, and which I regret to say so often is lost in that stony selfishness which usually attends the accumulation of wealth; and to witness the building up of those associations which attend, and at the same time promote civilization. A Backwoodsman.

SYMPHYTUM, OR COMFREY, AS FOOD FOR MEN AND CATTLE.

Messrs. Editors—A hasty and partial description of this vegetable, was circulated by many papers in the autumn of 1842. I wish now for the public benefit, to exhibit *more fully what I know, and what I believe on the subject.*

The botanic name of this plant is *Symphytum*, a word of Greek origin, signifying *springing forth in company*, which is descriptive of its growth, both root and herb; *but not of its nature.* The word *officinale* is sometimes added in books, signifying that a species or preparation of it, has somewhere, or at some time, been kept for sale in the shops of the apothecary. It is *perennial;* but how long I do not exactly know; but, perhaps, till the ground near, is filled and choaked with roots, It will then die, and afford the soil an abundant and rich manure. It is very hardy and vigorous; never, to my knowledge, injured by frost, drouth, vermin or insect; of course the crop is very sure. Various species of it grow in an uncultivated state in some foreign countries. Of late I have been informed, by good authority, that it is a native of this country, and found wild in various places on congenial soil, near runs, in unimproved mountains and woody lands; especially in the vicinity of Williams College, Mass., and in some places in the neighboring States, Vermont and New York. The green leaves are often used as pot-herbs. It is found in many New England gardens by single root, and used much in syrups to *nourish the feeble, and parry off consumptions.* The liquor, produced by boiling the dried leaves, is of a dark color, moderately tonic, restringent and exhilarating, much like *the black tea, but more nutritious;* of course, a very good substitute for people who will still use hot and exciting drinks. The root, cleaned, broken, dried and ground in a coffee or corn-mill, is a very mucilaginous and nutricious flour; resembling slippery-elm, oat-meal, arrow-root and sago. It has much the appearance in various respects of good, light colored rye-meal, and is peculiarly easy of digestion. A lady who could keep no other food on her stomach, was sustained three months on pudding of comfrey flour, made by pounding the dried roots in a mortar. Another, whose voice failed by disease, had it soon restored by the green root cut and simmered with molasses. Many years ago, I began to chew the root for cough and the good of my lungs, in my much public speaking, during the cold winters in the mountainous regions of New Hampshire. I pounded some fine for porridge and liked it well. Afterwards, at two different times, I had 4 lbs. ground at a corn-mill, to use with other flour or meal in gruel for family colds, coughs, and bowel complaints; and to give to neighbors for various diseases, especially of the lungs and bowels. As food, it operates slowly but powerfully, against the more common chronic complaints. It makes a very confortmg and healing poultice for external bruises, wounds and sores. It is my belief that, if used freely with other articles of diet, it would have a strong tendency to prevent, not only coughs, consumptions, dyspepsy, diarrhœa, and costiveness; but also rheumatism, cramp, contractions of the muscles, sinews and cartilages; and also, many of the sore and destructive consequences of using ardent spirits, tight-lacing, hot drinks, over eating, over working, &c., and many other means of self-destruction, practiced by many people. Should the taste at first be in any degree unpleasant to any, like almost any kind of new food, then let a trifle of some pleasant condiment, slightly varying the taste, be intermixed, till by use, it shall itself become pleasant, as it did to myself. It is very easily cooked, requiring only a little scalding or baking. I often put a spoonful or two, into my dish of milk, and liked it well, with no other cooking. People may cook this, as they do other articles of food, *according to convenience or fancy.* I would recommend to use about one-fourth part of comfrey meal, with three-fourths of wheat, indian, barley and buck-wheat, for bread, pastry, wafers or dough-nuts, and a larger portion for gruel or porridge, or soups, or griddles, or puddings; *but not with rye.* With the other ingredients, you may use it for custards instead of eggs, probably to great advantage. What portion is soluble and nutritious matter, I have not ascertained, but think it about equal to that of rice, which is said to be about 90 per cent. I would now for mixing with my own food, gladly exchange two pounds of good wheat flour for one of comfrey-meal. It has not, to my knowledge, been cultivated as common aliment for man or beast, till done by myself. But it will probably yet prove one of the best and cheapest articles of healthful diet, now known; not outdone by the potatoe or Indian corn. It would be well for any who have ground, to go considerably into the cultivation of it, for experiment and profit, by root and herb, and to keep on hand some of the root, hay and meal, to show as specimens. Any arable soil will, especially that rather moist and warm, produce a crop according to its strength. Its blossoms afford excellent stock for honey. Its top seed is not abundant, and is gathered but slowly. It will produce a good or full crop much sooner by the caps of the roots, cut or broken from one to two inches below the place whence the tops proceed, planted about even with the surface of the ground, 8 or 10 inches apart, than by the natural seed. I think the best time to dig and replant is about the time of early plowing in spring; that the said root-seed might be well preserved through winter in a cellar, for planting in spring; and that by properly dividing the said caps, and by strict economy, *double the quantity of ground* dug over, may be replanted by the seed produced—you may dig *annually.* But the roots will be small, and the tops light. It takes two or three years for the ground to be well filled with roots. Which of these terms would be the most economical, and whether cutting the tops for hay, has any effect on the growth of the root, I have not yet ascertained. I have quit tilling the soil altogether. I cannot therefore give results of late experiments of my own, nor supply others with seed, as requested. What are its qualities for fattening domestic animals, whether by herb, green, or dry, or by root, green or dried, and ground, I know not; but presume good. Wash the roots soon after dug, break them shortish, spread them thin under cover, and without farther attention and without injury, it will become dry enough to be ground in a coffee or corn-mill. If you find difficulty in drying the tops, or any other herbage, for hay, without wetting or crumbling, heating or rotting; then, after drying by sun as much as convenient, put such herbage, whether comfrey, turnep, beet, or cabbage leaves, or potato tops, or clover, or weeds, or any other succulent herbs, into small piles or stacks of 40 to 100 lbs. each, according to the then stage of drying; and, if occasion require, before stowing it in the barn, pitch it over lightly, *each into another,* putting top for bottom; and then let them remain out, till sufficiently dry for preservation.

Allow me in this connection to suggest to all economical farmers, the expediency of having on hand a sufficient number of caps for such piles, *made umbrella-like* of coarse shirting, of 1½ yard each, cut in two square pieces, and then diagonally, and sewed together with preparation for about four weights to be hung at the bottom of each, to keep it in place at time of wind. These would cost but about twelve cents apiece, would, with due care, last many years, *and be immediately beneficial by the farmer's convenience, the saving of his labor and the quality and the quantity of his hay.*

If I have erred in any thing in relation to this article, I wish to be corrected by any candid and faithful physician, chemist, or dietetic philosophers; for I wish to deceive none on the subject.

I will now state some facts with regard to the production of symphytum, root and herb. April 1841, I dug from 18 square feet of ground of moderately good tilth or heart, besides the said seed caps, one large bushel of green root of two years growth. In this proportion an acre would yield 2420 bushels. This when washed, dried and ground weighed ten pounds; which would be 24,200 lbs. the acre. About 8 pounds of the meal I used the following winter, in my own food, and was by no means glad when it was gone. *As to the herb for hay.* At two cuttings on 15 square feet of soil, in 1842, the second year from planting, July 15th and Sept. 1st, I obtained *four pounds* of good well-dried hay, better I think than good clover; which would be 5 tons and 1616 lbs. the acre. It is, I think, after the roots become considerable in the ground, capable of producing larger crops of hay than this. But let others try it for themselves, *root and herb;* and tell the world the results, as I have done.

Comfrey needs no tilling except the digging of the root and re-planting the said seed-caps for another crop once in two or three years. Whatever grass or weeds may grow with it, should be let alone, till mowed with the herb for hay. EZEKIEL RICH.

Troy, N. H., Jan. 1844.

CULTURE AND USE OF PUMPKINS.

MR. TUCKER—I have now read your excellent "Cultivator" for some years, and feel bound to make to you a frank acknowledgment that the benefit I have received from it, has been on a moderate calculation fifty times the amount of subscription. I know that I am within the mark. I will also add that I have been a considerable planter for twenty-five years, and continue to get something that is highly beneficial yet, from every number. In your No. 5, May, 1844, I find some judicious remarks regarding the *Pumpkin crop.* For this plant our climate and soils (lime) are singularly favorable. Limestone *prairie*-soil, excellent—lime-stone *woodland* superior. Our best cultivators of the pumpkin, plant them *eight feet* apart, one vine in the hill, in the intermediate space between two hills of corn, four and a half feet apart. Break the ground up twice *before* planting, *during frost* if possible—one plowing and two good hoeings makes a fine crop. When at maturity any young *Miss* might step from pumpkin to pumpkin, over the ground. A shovel-full of *ashes* thrown on each hill after planting, is excellent. We have no insect that disturbs them. A shovel-full of manure *on* the ashes superior.

As regards using or feeding. Using in any *way*, or to any *animal*, without *boiling*, or better, *steaming*, is absolute waste—and then using them *alone*, another *waste.* A short process with us is to boil or steam the pumpkin—let them get *cold*—put some shelled corn (yellow) into a cask of water until it swells—with a paddle or common pounder, mix the *corn* and *pumpkins* together. This for hogs; with *peas* the same way. For hogs, pour the *water* over the mess—*so save all.* For steers and milch cows cut up oats, or rye, or rice, or barley, *in the sheaf*, fine; mix as before mentioned—salt moderately the mass.

Chemical science and common observation has settled, that by some rather hidden cause, in a number of cases, two vegetable substances, containing apparently little nutriment *separate*, by amalgamation, after *boiling* or steaming, produce a singular *nutritive result. Turneps* are a long time fattening, if ever, a beef. *Cotton seed*, almost all *oil*—about the same. *Boil them both*—mix together—nothing better or quicker to fatten, or make *fine* beef.

A steer or hog with us, will starve to death on Irish potatoes alone. Boil them, and he rapidly fattens. Mixed with meal or peas, also boiled, and nothing superior to fatten—from well tried experiment much better than either separately used, paying with ample interest for all the trouble and expense.

Now for keeping pumpkins until June, as we do. Build under an *open* shed a rail-pen—(rails chestnut, one set will do for tweny years) lay the first bottom rails 12 inches from the ground—spread pumpkins so as not to touch; scatter dry shucks amongst them and next the rails, loosely—then over them lay rails 9 inches apart, so as not to rest on the layer of pumpkins; then more pumpkins—another layer and shucks loosely as before, and then rails, &c., until the pen is as full and high as you wish. In gathering, cut them off the vines, leaving a piece of stem; handle so as not to give the *slighest bruise;* haul for this purpose, on a *low-wheeled* wagon.

By following these directions, the full and great value of pumpkins will be discovered; and further, that whether as regards the health of the animal fed, or the economy of feeding, they are an *extremely valuable crop.* Pumpkins and Irish potatoes together, as above, a superior feed—excellent for *poultry* and *pigs.* Almost the same theory will apply to *turneps.* Sprinkle clean hickory ashes freely over both messes. I keep sifted young *hickory ashes* always by me, like *salt.* I know from full and fair trial the value, not only as regards rendering food to animals *nourishing*, but equally as segards preserving their *health* and vigor.

South Alabama, May 18, 1844. JOHN WILLIAMS.

GREEN CORN IN WINTER.

EDITORS OF THE CULTIVATOR—Will you or some of your numerous correspondents, have the goodness to make known, through the columes of your valuable paper, the best method of preparing green corn for winter use? In the month of January last, I purchased in Philadelphia a small quantity, put up in a round tin box, 6 inches long and 8 inches in circumference, that required no other preparation for the table than merely to be heated and seasoned to the taste. It was in all respects exactly like green corn fresh from the stalk, in August—a most incomparable luxury. Any instructions in this or other methods of preparing the article for winter use, would doubtless confer a favor on a large proportion of your readers. D. H. M.

Norristown, Pa., June 19, 1844.

Those who have had experience in preserving corn in the manner above stated, will confer a favor by giving us the particulars of the mode.—EDS.

HISTORY OF THE DRAG RAKE.

Judge Larrabe of Shoreham, Vt. made and used a rude one with a straight handle 10 or 12 years, and it was hardly noticed. But Coat's patent revolving *man rake*, fully proved the utility of the drag rake, and several were made in this vicinity. One with a long crotched and bowed handle made by Cyrus Barnum in 1837, was preferred. The next and next succeeding year, A. F. Cram of this town, added the stakes to the head to keep the hay from sliding over, and brought it to its present shape. He made about 100 of these, and moved away. They were well liked, & in 1842, were much inquired for, but none were in market. In 1843, I, in connexion with a neighbor, made and sold over 600. As an evidence of their credit where known, I state, that we retailed to the farmers of this town over 50 last season, at $1,50 each. Mr. Cram attempted, but failed to get it patented, (but not because he was not entitled to a patent.) It is however, known in this vicinity by his name. CLARK RICH.

Shoreham, May, 1844.

DURAND CORN—EARLY RIPENING.

MESSRS. EDITORS—For the benefit of the readers of the Cultivator, I will say that in 1842, a frost occurred here on the night of June 10th, which cut down most of the corn on low grounds. Capt. Vose, of this town, had a piece of corn near the river, which was all cut down. He waited some eight or ten days to have it start again, but it did not, owing probably to the germ of the grain having been frozen. He plowed the field again, and came to me and obtained half a bushel of seed corn, which he planted on the 20th of June. The corn soon came up, and grew rapidly, and Capt. V. informed me that he had a good crop, with little or no soft corn among it. L. DURAND

Derby, Conn., June, 1844.

WHITE WILD GEESE.

MESSRS. EDITORS—In your May No., I noticed a paragraph in reference to wild geese having been seen on the coast of Massachusetts, which were entirely white. I had before heard of the existence of such geese. A man by the name of Cooper, who some years since was in the employ of the Hudson's Bay Company, told me he had frequently seen such geese in the high northern regions—that in their winter migrations they generally passed down the Pacific coast, which was the reason why they were not oftener found on the Atlantic. Occasionally, he said, a flock got lost or for some cause took an unusual direction, and this will account for their having been seen in Massachusetts.

Schenectady, June, '44. C. H. Tomlinson.

CONVERSION OF SINGLE TO DOUBLE FLOWERS.

Messrs. Editors—The conversion of a single into a double rose, by enriching the soil, is familiar to every one. The growth of organs half stamen and half petal, as if hurried unfledged from their nestling places, or as if a change of fashion had overtaken them in the progress of their development, are frequently seen in peonies. But nature sometimes displays the beautiful and wonderful in a series of variations upon a favorite theme;—as the following statement will illustrate.

Among the shrubs and flowers of a lady in Moscow, Western New-York, there is a rose bush, which continues in bloom from the early appearance of flowers, through the whole summer. Some of its buds are purely white, others are of a rich crimson color. Besides these there are roses whose petals are a part wholly white, and the remaining ones as wholly crimson—and these admixtures are in all proportions. Again the petals of some flowers are chiefly white with red streaks, and others are chiefly red with white streaks.

The soil is chip manure and loam; and nothing is known of the shrub, except that it was a shoot from some of the princely clusters in the garden of Mr. Sam'l M. Hopkins of Geneva. J. N.

FARMERS' AFFAIRS.

Union, as well as knowledge, is important among all classes; and among none more important than among farmers. Who can calculate the beneficial influences exerted by agricultural societies and cattle-shows? The people among whom agricultural fairs originated in this country—the hardy farmers of Berkshire, Massachusetts—cherish those exhibitions with increasing interest: And who will doubt that great good is produced by what thus meets with increasing favor after thirty-five years' experience among such a community as the people of old Berkshire? The history of the first efforts for holding fairs in that place, and the extent to which that model has been copied in other states, would form an interesting chapter in the history of agricultural progress: And certain are we that no man familiar with the facts in that chapter, would ever again doubt, if he has ever doubted, the importance of societies and cattle shows in promoting emulation and improvement among farmers.

By the by, the history of cattle-shows in Berkshire, and the influence that has radiated from the efforts made there some thirty-five years ago, might form an interesting portion of the exercises at the Great Jubilee at Pittsfield, in August, when the sons of Old Berkshire are to gather together from various states, to renew the acquaintances formed in early life, while cultivating the farms around their ancient homesteads in that well known county—a county, honored perhaps beyond example in the honors which her enterprising sons have secured for themselves in all quarters of the Union, wherever enlightened enterprise has led them. Rho.

HAND MILLS.

Messrs. Editors—I see in the June No. of your Cultivator, an account of a new cast mill, to be worked by men or horses, which is spoken of very highly. In 1828 I saw in Florida a cast mill, made, as well as I recollect, upon the same principle pretty much as the new coffee mill, with a hopper that would hold one peck or half a bushel of corn, which was worked by a crank; and on the opposite side of the mill there was a balance wheel of cast-iron about three feet in diameter, which was screwed on to the other end of the same piece of iron that the crank was screwed on, which mill made excellent meal or hominy, and very fast for so small a mill, and which could be worked very easy with the assistance of the balance wheel when put in motion, and could be worked by any boy of ten years old. As I have ever been anxious to procure such a mill, I wish to ascertain whether there are any such made at any of your northern factories, and the price and probable expense of getting one to Wilmington, N. C.

A Subscriber.

Halesville, N. C., June 20, 1844.

We do not know of a mill like the one here inquired for—that spoken of in another part of this paper, as invented by Mr. Arnold is somewhat similar.—Eds.

SULPHATES OF AMMONIA AND SODA, AND NITRATE OF SODA.

These are very useful preparations and essential materials for manures; they may be used separately or collectively, and but a few experiments are required to detect the great advantages which they are respectively exercising. The Sulphate of Ammonia is according to the subscriber's ideas, best employed in a liquid state, say 2 or 3 lb. for a barrel of water, and by sprinkling over the ground morning and evening the effect is visible within three or four days, and Mr. Gilbert of Jersey City, has made the same observation with the cauliflowers; mushrooms may readily be raised in a week; there is no doubt but the advantages in using these preparations are two-fold. 1st. In planting corn you make it sprout quickly, and the grub-worm which is the greatest enemy to the farmer and inclined to attack the planted seed which at once begins to sprout.

2d. The plant certainly produces an early crop in every instance, and in a pecuniary respect of much service. The Sulphate of Soda may be used in a liquid state, but I prefer it in lumps mixed up with dung or horse manure, as it will then gradually decompose and form with the ammonia developed from the dung the various production of salts; it is invaluable for an early potato crop. The Nitrate of Soda is by itself too powerful to use, and may be wixed with the Sulphate in proportion of 1 lb. of the latter.

All the three salts may be used in solution or in a dry state and will prove very efficient, say:

2 lbs. Nitrate of Soda,
3 lbs. Sulphate of Ammonia,
5 lbs. Sulphate of Soda,

All mixed up and dissolved in one hogshead of water, if intended for artificial guano; to the above composition 1 bushel of bone dust may be added and it will be found highly useful. L. Feutchwanger.

New-York, June, 1844.

CALVES WITHOUT HORNS.

Messrs. Editors—I raise calves without horns, and think them quite preferable to calves with horns,—they are not liable to injure one another, and less shelter will answer for the same number, provided you do not put them in stalls. When the calf is from two to four weeks old, tie the legs, the same as if you intended to kill him. Cut off the hair on and around the horn—have an iron, an inch or more in diameter, square at the end, heat it to a red heat, and sear the lump down even with the surface of the head, and put on a plaster of shoemaker's wax, or some other adhesive plaster, to keep the air from it, and no more is necessary to be done. The calves do not suffer the least inconvenience from it. If the lump is not seared down close, there will sometimes grow a loose nub of a horn. J. S.

The Wheat Crop in Northern Illinois.—The editor of the Prairie Farmer under date of May 28th, says: "From every quarter, we notice the reports are, that wheat is likely to come in luxuriantly. We can but repeat the opinion we have before expressed, *that the price of wheat is to be lower for years to come, than for years back,* in proportion to other articles; for the sufficient reason that so much more is produced. The folly of exclusive wheat raising is apparent."

☞ The *S. Carolina State Ag. Society* hold their next Exhibition at Greenville on the 2d Wednesday of Sept

FOREIGN INTELLIGENCE.

By the last packet at Boston, we received from our kind friends in England, an unusually large supply of foreign Agricultural Journals, among which are the *Farmer's Magazine* for May and regular files of the *Mark-Lane Express, New Farmer's Journal, Gardener's Chronicle, Agricultural Gazette, Farmer's Herald, &c.*

State of the Weather, Crops, &c.—Accounts state the month of May was unusually cold in England, as well as in this country, but in respect to moisture, the weather was the reverse of what it was here—there being no rain of any consequence in England during the month, and but very little during the month preceding. The severity of the drouth had injuriously affected many of the crops. Some of the late spring grains had vegetated but very imperfectly—the pastures were in many instances dried up—in several districts the animals had to be supported by foddering, and the stock of hay was being rapidly consumed. It is hoped, however, that the drouth is at an end. Rains had fallen in some places on the last days of the month, and there was a prospect of more. In Scotland, there had been some deficiency of rain, but the wheat and other crops looked rather promising.

Extract of a letter received in New-York, dated London, June 3:—"Our weather has been singularly dry and free from all moisture for the last ten weeks—so much so as almost to have checked farming vegetation, with the exception of the autumn sown wheat—as for barley, oats and beans, they are just above ground, and the latter are in blossom, not six inches high. Of hay, compared with last season, the crop will not be one-fifth in quantity. In short, we must be large customers of your Western States, if matters continue as at present."

The introduction of live stock into England, which has taken place to some extent under the new tariff, has, it is said, resulted in a general loss to the speculators. Some of the animals, imported in store condition, had been put to stall feeding, but in no instance have they thriven well; on the contrary the change of diet had such an unfavorable effect upon them, that in the course of a few weeks they have been attacked with disease and rendered almost valueless.

Farm laborers were getting ready employ at from 10*s.* to 12*s.* per week.

The Mark Lane Express of June 3, says:—From the United States, and Canada, immense quantities of salted beef and pork, together with hams, cheese, bacon, &c., have come in, yet the demand for those articles has improved, and prices have been well supported. For instance, American cheese has sold at from 34s. to 48s.; beef, 30s. to 38s.; pork, 36s. to 40s. per cwt.; tongues, 24s. per keg; smoked hams, 52s. to 56s. per cwt., duty paid; beef, for ship's use, 80s. to 90s.; prime mess, 65s. to 70s. per tierce; and prime mess pork, 45s. to 52s. 6d. per barrel, in bond. At these rates, a good business has been transacted, with every prospect of higher figures.

American Seeds in England.—At a late meeting of the Council of the Royal Agricultural Society, Mr. Colman presented samples of several kinds of seeds which he had received from America, and which were distributed among 30 members of the council for trial, and their reports respectively on the results of their cultivation. Among the seeds were millet, broom-corn, herds-grass, or timothy, (*Phleum pratense*,) and several varieties of Indian-corn. Mr. Colman is strongly inclined to think that the early kinds of Indian corn may succeed in the southerly part of England. Mr. Colman also presented two plows, one made by D. Prouty & Co., Boston, and the other by Ruggles, Nourse and Mason, Boston. The committee of arrangements have made preparations for the trial of these plows with those of English manufacture, at the coming show of the Royal Agricultural Society at Southampton. Mr. C. likewise presented American grain-cradles and scythe-snaiths, of improved construction, besides turnep-weeders, manure-forks, &c.

Agricultural College in England.—At a public meeting lately held at Cirencester, (Eng.) in furtherance of an agricultural college for the education of young men in the theory and practice of agriculture. Earl Bathurst, Lord Ducie, and other noblemen, as well as tenent farmers, took part in the proceedings. More than one half the necessary funds have been already subscribed or promised. A report from a committee who had visited the agricultural colleges of France, Switzerland, Prussia, &c., was read, stating that all those institutions were flourishing, and their beneficial influences were becoming more widely extended and acknowledged.

Defect in Potatoes.—Several European writers seem to entertain the notion that the failure and poor quality of the potato-crop for a few years past, is owing to the degeneracy of the variety from age. They also recommend *unripe* potatoes for seed, for the reason, as is alleged, that they will vegetate more readily and vigorously than ripe ones. We do not think that either of these theories is supported by facts, in this country.

Guano.—That is said to best which is brightest colored—being freshest, or last formed. On some of the islands in the Pacific, it is said its smell is perceptible at the distance of fourteen miles. There are places where it is seventy feet thick.

The Alpaca in Great Britain.—It has been stated that this animal, which has within a few years been introduced into Great Britain, has not proved to be very healthy there. A late foreign paper says there can be no doubt as to the climate of England and Scotland being suitable, and that the difficulty lies wholly in getting them there—the animals always becoming sickly on their voyage from Peru. It is said they contiue healthy till they reach the Cape of Good Hope, when they begin to droop and frequently die. The account to which we allude, says there is a pair of these animals in Stirlingshire, (Scotland,) which have been kept there for eight or nine months, and stood the severe winter without injury, and more hardy than the native sheep, required less food, and subsist where sheep would die. They are said to be now in perfect health, very docile, following their keeper like a dog, and are very elegant and interesting. The weight of their fleeces was 17½ lbs. The owner anticipates that the time will come when the rough hills and heathy mountains of Scotland will be covered with them, and that they will become a source of wealth to the proprietors of the Highland districts, where they will thrive on those coarse kinds of herbage which neither horse, cow, or sheep will touch.

Rot in Sheep—It is well known that sheep affected with the rot, have insects in their livers called *flukes.* There has been much speculation in regard to these insects—whether they are the cause or the effect of the disease, or whether they are produced spontaneously in the liver, or proceed from eggs taken into the stomach of the sheep, are points on which writers are not agreed In an English paper we notice an extract from a lecture lately delivered by Mr. Brightwell, in which he spoke of these insects. He says—"The vulgar notion seems to agree with the scientific one, viz: that the eggs or larva of insects are drunk in the water. The strongest proof of this I know, is in the relation of the woman at or near Cork, who had larva of the church-yard beetle in her stomach. By an absurd notion she drank a mixture of water and clay from a priest's grave! I believe there are doubts whether the larva within animals ever become insects or arrive at the pupa state. In the case just noticed, I think it is said they did so; if not that foolish woman must have taken great draughts at at various times, to produce the vast quantity of larva which at various times came from her stomach. Although larva may come from animals' stomachs with the excrements, and afterwards become perfect insects, still I cannot see how they can pass from the liver. Whether my views on the rot in sheep's livers be right or wrong, I am safe in saying that the animals originally belonged to high and dry districts, and the nearer their pasturage comes to that, the less liable will they be to the rot, both in foot and in liver."

Preserving Grass for Fodder.—Pr. Johnston says: "A method has lately been tried in Germany which seems in a great measure to attain this object. Pits are dug in the earth from ten to twelve feet square, and as many deep. These are lined with wood, and puddled below and at the sides with clay. Into this the green crop of grass, clover, or vetches is put, just as it is cut. Four or five cwt are introduced at a time, sprinkled with salt, at the rate of one pound to each cwt., and if the weather and consequently the crop be dry, two or three quarts of water should be sprinkled on each successive layer of four or five cwt. is spread evenly over the bottom, is well trodden down by five or six men, and rammed as close as possible at the sides with wooden rammers. When the pit is full the topmost layer is well salted, the whole then covered with boards, or a well fitting lid, which has a quantity of earth laid above it for the more perfect exclusion of the air. The grass speedily heats and ferments, and after the lapse of about six days, the whole has sunk about one-half of its original bulk, when the lid may be removed and the space filled with fresh grass. When thus fermented, the grass has the appearance of having been boiled, has a sharp acid taste, and greedily eaten by the cattle. The pits should be kept coverd for at least six weeks, after which they may be opened successively as required, and be kept open till their cantents are consumed, without suffering any injury from contact with the air. One experimenter says, that by giving only 20 lbs. a day of this salted fodder, along with chopped straw, he kept his cows in condition during the whole of the winter; another states that, on a daily allowrnce of the same quantity, his cows gives a rich and well-tasted milk."

We are not prepared to say how this plan might suc- succeed. It syems to be somewhat similar to that sometimes practiced for keeping brewers grains.

The Upas tree—The story of the "Bohon Upas, in the Island of Java," which constituted one of the reading lessons in a school book very generally used in New-England some thirty years ago, will be recollected by many. The poisonous qualities of this tree were represented as so wonderful, that no animal could with safety approach it within the distance of half a mile, and birds, when attempting to fly over it, were said to fall down dead. Criminals, when under sentence of death, were said to be allowed their choice, either to visit this tree, and collect some of the gum or sap, or suffer immediate execution—the manner of execution being shooting with arrows, dipped in the sap of the upas. In a late number of the London Gardener's Chronicle, we find the following notice of this tree:—"A living plant of this celebrated tree has been lately presented to the Horticultural Society by the East India Company, and is now growing in the Chiswick Garden. It is in perfect health, and, notwithstanding the fables of Dutch travellers, perpetuated by Darwin, may be approached with safety. It is, however, so virulent a poison that no prudent person would handle it without proper precaution."

Insects in Wheat.—In a lecture on the "diseases of wheat" lately delivered in England by Rev. Mr. Sidney, mention was made of the "wheat midge" and "ear cockle," magnified representations of which were exhibited. "The former is a fly something resembling a gnat; the latter is a small eel, the larvæ of which are deposited inside the grain in a cottony substance, and they are so minute that many thousands exist in a single grain of wheat. These animalcules are very destructive, and the chrysalis of the insect is supposed to come to life in the farm yard where the refuse of the threshing floor is thrown, as it exists in the chaff. As a means of preventing this evil it is recommended that the chaff should be sieved, and that the dust, in which the chrysalis of the insect is always to be found in great numbers, should be taken away and burnt." We believe this "wheat midge" is the same insect which has been improperly called the "weevil" in this country.

American Produce.—The following extract from a letter just received from a farmer, who emigrated from the Cotswolds to the United States of America, has been sent us by a correspondent who is of opinion that the facts communicated tend to show, that if agricultural produce was allowed to be imported into this country, free of duty from such a boundless country as the United States, the British farmer and grazier would be entirely superseded in the home market. The writer of the communication, we may add, is located in the Ohio state, and his letter is dated December 6. "Cattle and sheep," he says, "are as good as the average in England; of sheep, the Merino breed appears to have been early introduced, and followed by the Leicester and Southdown; the Merino is not a bad sort, but I think the introduction of our English breeds a great advantage. Oxen are worth from 6*l.* to 6*l.* 5*s.*; cows and calves, from 2*l.* to 4*l.*; and other stock in proportion. Fat wether sheep, 18lb. per qr., 6s.; a man may buy a good flock of store sheep for 4s. 2d. each. Fat pigs, those above ten score, 2s. 6d. per score; under that, 2s. 3d. The large hog is worth most money, as the fat parts can be turned into lard, and more made of it than the pork or bacon could fetch. There are thousands of sheep killed, the legs salted and dried, and the remainder boiled or fried to obtain the tallow. Butter sells at 3½. per lb.; cheese, at 2d, to 2½d. The average price of hay is 20s. per ton; good cider, 9s. the 100 gallons—so abundant was the crop that the apples will not all be used. I sold two loads of wheat at 3s. 10½d. per bushel; oats fetch 11½d. I think you would be surprised to see how things come forward in the spring. I had oats sown the 12th of May, and cut in July. I expect you will get some of the Ohio wheat, as a great deal of it goes to Canada, which is not more than 100 miles distant by water."—*Glouc. Chr.*

Warbles in Cattle.—A few applications of strong brine will at once destroy warbles in cattle, in whatever stage they may be found to exist; after which the animal will thrive better, and when it comes to be slaughtered, both the hide and carcase will be more valuable.

The Egg trade—To give an idea of the extent of this branch of trade, it may be stated that the Princess Alice, from Dublin to Fleetwood, on Sunday week, brought 38 tons, or about 70,000 eggs. The whole were dispatched by railway to Manchester, Birmingham and London.

White Crows.—We were shown to-day, at a house in the Kirkgate, a brace of crows, nearly as white as snow. They are this year's birds, and were taken out of the same nest in company with a brother or sister of the ordinary color. When anxious for food, they caw their vernacular in splendid style, run about the floor, and are as well-grown as birds can well be of the same age.—*Dumfries Courier.*

Good Farming.—It may be laid down as a standing rule, and as a guide to direct our exertions, that all good farming, the whole of that process by which bad land is to be converted into good, or land naturally good and productive is to be continued in that state, is comprised in the three following operations of husbandry. 1. To carry off all stagnant and superfluous water by means of judicious draining. 2. To return through the medium of manure, the strength and fertility which has been extracted from the land by cropping. 3. To eradicate all noxious weeds, that the strength of the manure may be thrown into the crops and not into the weeds.—*Rawstorne s Remarks on Lancashire Farming.*

Deanston Farm.—We took the opportunity, while at Stirling, of vising the farm of the celebrated Mr. Smith, of Deanston. In the plantation adjoining the improved fields, the original state of the soil may be seen and compared with the same soil in its improved state. The contrast is very great. There are no open drains or ditches on the farm, nor open furrows or gaws of any kind. The plow used here has a moveable mould-board, which the plowman turns over at the land end, then enters at the same place, the earth being always thrown to the same side. The fields are thus laid out quite level, no land lost with open furrows, and no time spent in going round ridges in turning. This system answers well with Mr. Smith, who reaps his crops with a reaping machine, and does not require ridges as a guide in harvest. At the entrance to each field the ground is paved about four feet within the gate, and to the road outside, to prevent the ground being poached with carts or cattle. The division fences (thorn hedges) all run parallel. A pump-well is fixed at the corner of four fences, and supplies, by means of troughs in each adjoining corner, water to four fields at once. The drains, have never in a single ins'ance, required to be opened and relaid. They are formed en tirely of broken stones. The grass lands, in some places, were beginning to fog, and seem, in our opinion, to be in need of lime. This farm (we believe about 150 acres in extent) is an excellent example of the benefits of furrow draining, combined with that part of the system which is Mr. Smith's own, subsoil plowing. But the whole success of the system, as shown by the increased produce of this farm, cannot be entirely ascribed to draining and subsoiling. Great part of it is due, no doubt, to the high price got for the produce consumed at the Deanston cotton works, where upwards of 1,000 people are employed, and which is within one hundred yards of the farm offices; and most farmers will be inclined to think that much of the fertility of the farm is due to the manure supplied by the village (which adjoins the farm), where this large family of human beings live.—*Dumf. Cour.*

SHEEP ON THE HIGHLANDS OF SCOTLAND.

On the wild mountain ranges of Scotland, where the ruggedness of the soil does not admit of cultivation, immense flocks of sheep are kept. In the late foreign papers we notice an account of a "club" formed by the farmers of a portion of this region, the object of which is to ascertain and record the prices of the cattle, sheep, and wool of the district during the past year, and to collect any other useful information. We have undoubtedly much land in this country now lying waste, which might be appropriated to the grazing of sheep with as much profit as is yielded by these Scottish lands. The following extract will interest many of our readers:

"The usual calculation is that, in the North Highlands, five acres of pasturage are required for two sheep; whilst south of the Frith of Forth three acres will carry two sheep. Scarcely any hill pasture in Scotland, in its natural state, will carry one sheep to the acre. The extent of land thus occupied by many farmers is immense many of them counting "hirsels" to the number of from 3,000 to 5,000, and even 10,000, whilst some go much beyond this; Cameron, of Corriehoyle, for instance, whose holding lies in the Lochiel country and away by Glencoe, counts his 40,000 bleaters on the wild mountain sides and deep valleys of the far north. Mr. Cameron, who was once a common drover, may thus be reckoned as, next to Prince Esterhazy, the greatest flock-master in the world. Farms of the kind of which we are speaking, are nearly all let upon leases of nine or thirteen years, whilst the leases of the arable farms in Scotland run from 15 to 19 years. The locality of Mosspaul is wild, stern, and rugged—the "Wisp" [name of a mountain] itself rising immediately behind the inn, to the height of 1,950 feet above the level of the sea, whilst "Alps upon Alps arise," all around closing in a narrow valley, at the foot of which there runs a mountain stream called the Ewes, and along which lies the road to Edinburgh, hemmed in on each side by immense hills, which rise almost perpendicularly, and strongly remind the passenger of the accounts he has read of the far-famed Kyber Pass. The inn of Mosspaul itself, a solitary dwelling amidst the mountains, stands at an elevation of 620 feet above the level of the sea, and is built on the very confines of Roxburghshire—the stables, barns, &c, which adjoin being in the county of Dumfries. For miles and miles around and along the road, the property is owned by the Duke of Buccleugh, and is divided into holdings, such as we have already indicated—many of the farmers being owners of from 3,000 to 5,000 sheep.'

BLIGHT IN PEAR-TREE.

Dr. Mosher, of Cincinnati, has presented to the Horticultural Society of that city, a paper on this subject, in which he states his belief that the blight is caused by a species of aphis. He first examined with a lens the blackened leaves and branches, extending his observations to the bark and wood, without discovering any satisfactory cause. He always cut off the affected branches, but no sooner was this done, than others were attacked in the same manner. At length, on examining some healthy branches, adjacent to those which were diseased, he discovered the enemy. The insects could hardly be seen by the naked eye, but by the aid of a lens, were magnified to the size of a quarter of an inch, and were busily engaged with their proboscis, feasting on the vital juices of the tree. The leaves, being thus deprived of the necessary sap for nourishment and elaboration, soon perished and turned black by the heat of the sun, while all that part of the branch and trunk below, dependent upon the elaborated sap of the deadened leaves above, shrunk, turned black and dried up. The fruit became shrivelled, and shared the same fate. Dr. M. thinks the only remedy is to cut off the affected branches and burn them. Particular care is required to take off every limb on which the enemy can be found. Cutting off those which are already deadened, will be of little avail, as the insect has then begun depredating on other branches, though the consequences may not yet be obvious.

HOLLOW HORN.

A writer with the signature of "*Grazier*," in the Louisville Journal, describes very particularly a case of hollow-horn in a cow. He has no doubt that the disease is occasioned by "hard keep." He says he has frequently seen cattle bought from persons who had almost starved them, become fat, and to all appearance healthy; but would suddenly exhibit all the symptoms of the hollow horn. Boring the horns, he thinks is only a palliative, not a cure—as the matter in some cases cannot be discharged at a gimblet hole. Boring was tried in the case he speaks of, but without effect. The horns were finally cut off, and the cow got well. In conclusion, he says, "Hollow horn, if treated as above, will *certainly* be cured, and the animal rendered as useful as ever, either for milk, for work, or for fat." We would suggest whether this is not rather a *large* conclusion to be drawn from a single case? We have known this remedy frequently tried, accompanied with all possible care, but without success. In desperate cases, no remedy is infallible. *Preventives* are best; but if animals become diseased, they should be attended to as soon as attacked.

RICHNESS OF MILK, &c.

A writer in the Louisville Journal, speaking of the experiments of Mr. Bement in making butter, given in the March number of the Cultivator, says:

Mr. B. expresses surprise that a cow whose milk produced little butter, as showed by the lactometer, or little cream, (I have forgot which,) made the fattest calf. A word as to the cause of this. Though not able to use technical terms or to give a chemical analysis of milk, I believe I can be understood. The component parts of, new milk, as far as dairy analysis shows them, are butter, cheese, and whey; and in the milk of individual cows there is a wide difference in the proportions; and cows that give little butter *may* make it up in cheese, and those that give little butter and little cheese in proportion to their milk *must* make it up in whey. I do not recollect of ever seeing a comparative statement of the nutritive qualities of butter and cheese, but I have found in feeding calves from the bucket, instead of suckling, that the abstraction of the butter from the milk made less difference than I had anticipeted, and that the substitution of a pound of molasses was an equivalent for every pound of butter withdrawn. And I think it possible that a cow where the *caseous* part abounds in the milk is as likely to make a fat calf as one whose milk is composed of *butteraceous* matter and serum.

No proper test has been found to prove the quality of milk, which, as it comes from the cow, is a little heavier than water. The tube lactometer only shows the cream which does not determine the richness; and beads are useless, as water administered to new milk would lessen its specific gravity and might be mistaken for cream.

Orthography and Etymology.—"Molasses," says Webster, "is an incorrect orthography of *Melasses*." The word is said by Bordley to have been derived from *mel*, honey, and *assinus*, an ass—from the circumstance of asses being used in grinding sugar-canes.

THE CULTIVATOR ALMANAC FOR 1845.

The Almanac which we issued late in the season for this year, met with such success, that with our limited edition, (30,000 copies,) we were unable to supply the demand for it. This success has induced us to issue an edition for 1845, and to enable us to supply all demands for it, we have had the work stereotyped, and are now ready to supply orders from any section of our country. We subjoin a list of the

Contents of the Cultivator Almanac for 1845:

1. Astronomical Calculations, by David Young.
2. "The Circle of Fruits," a beautiful engraving, representing the time of ripening of the various kinds of Fruits, by which a succession is furnished the year through.
3. Useful Recipes.
4. Hints for the Months.
5. Plan of a Farm House
6. Village Door Yards.
7. Crested Fowls.
8. The Shepherd's Dog.
9. A Cheap Hen House.
10. Raising Melons, Cucumbers.
11. Pruning Orchards.
12. Improvements in Agriculture.
13. Hay Box for feeding Sheep.
14. "A stitch in time saves nine."
15. The Common Horse Rake.
16. Remedy for smokey chimneys.
17. Culture of Pole Beans.
18. Hanging Gates.
19. Grafting.
20. Merino Sheep.
21. Experiments.
22. Protection of Vines from Bugs.
23. Cutting Straw, Hay, &c. for Fodder.
24. Hints to Young Men.
25. Prevention of Accidents from Bulls.
26. Hot Beds.
27. Culture of Millet.
28. Speed the Plow.
29. Plan of a Barn.
30. Coulter for cultivating corn.
31. Agricultural Readers.
32. "Did'nt I drum well?"
33. Flowers.
34. Propagation by Layers.
35. Early Fruit.
36. The Cultivator.
37. Agricultural Papers.

☞ It is printed in the style and of the same size as the Cultivator Almanac for 1844, and illustrated with Thirty Engravings, and sold at the low price of $2 per 100—or $15 per 1,000. ☞ Booksellers or others, can have editions printed with their imprint, and occupy the last page with an advertisement, for $5 extra on the first 1,000 copies.

Charcoal.—I wish some one would give us a feasible mode of pulverising charcoal. Reducing it to powder with flails is out of the question, except for a few bushels. Will Za. Drummond, Esq. of Va., tell us how he manages it? James Boyle.

Ag. Publications.—We must study our profession; we have many judiciously conducted periodicals, and many scientific works, and no man who has a proper pride in his profession but reads some agricultural paper with all the zest that ever a politician devoured a partizan journal. These productions from practical farmers, amuse, interest, and instruct. They excite us to increased exertion;—inspire us with confidence in undertakings which otherwise would be abandoned upon the first failure;—give us plans, the most approved, for all our farm buildings;—make suggestions which are often of the greatest importance:—indeed, they act as "a friend in need,"—as a wise counsellor, a judicious, experienced adviser. These papers are of as much importance, and are as necessary to the planter in the successful prosecution of farming as the political newspaper is to the statesman, or the "reports of cases" to the lawyer.—*Bowie's Address.*

Cure for Unruly Milkers.—Make a pen of just the size that the cow can comfortably stand in and no more. This you can do in the corner of your yard, by setting down three posts, and boarding them up fence-like, leaving them open at the end to drive in the cow. Let a space be left open at the side where you wish to milk. Put your cow into it and fasten her in by stretching a chain across the end of the pen behind her. Then take a piece of rope, say fifteen feet long, and tie one end of it to a post behind the cow, and near its length distant from her: tie the other end to the leg of the animal, just above her foot, draw it back as much as it would naturally be for her to be milked. Then sit down and milk the cow at your leisure. It will take a man an hour and a half to make the pen; and when once made, it is very little more than to milk without. She may object going into it the first and second time, but will afterwards give no trouble.—*Selected.*

GREAT SALE OF ELECTORAL SAXON SHEEP.

THE undersigned will sell at vendue the two flocks of *Pure Electoral Saxon Sheep,* belonging to the estate of the late Henry D. Grove, as follows:

1. That at Grainger, Medina co., Ohio, consisting of about 400 sheep, on the farm now occupied by them, on the 30th of *September next.*

2. The home flock, at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th of *October next.*

A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool from which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with of equal fineness. SAM'L LAWRENCE.

Lowel, April 9, 1844."

Terms of sale, cash.—Reference, Sam'l Lawrence, or either of the subscribers.

Buskirk's Bridge, April 20, 1844.

ELIZA W. GROVE,
W. JOSLIN,
myi —5t. S. A. COOK.

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to J. OAKLEY,
Oct. 1.—tf. No. 75 Nassau street, New-York.

FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at his long established Seed Store, a supply of the best quality and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, Red Top, or *Herd's Grass, Orchard Grass,*
Lucerne, or *French Clover, White Clover,*
Trefoil, Kentucky Blue Grass, &c. &c.

Also, the different varieties of Wheat, as White Flint, Red Chaff, Mediterranean, and English—for sale in lots to suit purchasers at moderate prices, by ISRAEL RUSSELL,
Feb. 1, 1844.—mar. oct. 26 Front-street, New-York

N. B. The following description of some superior English Wheat sown in the month of October last, the product of which will be for sale at the above Store, is given by a respectable English farmer in the State of New-Jersey, who sowed about eleven bushels, a sample of which can yet be seen. "It is called the Uxbridge White Wheat, and is the most noted Wheat they have in England, it being of fine quality, always commands a high price, as the flour is used by the biscuit bakers in London; it is great for yielding, and puts out a much larger ear than any wheat I have seen in this country. I saw when in England, three years ago, on my brother's farm in one field, 120 acres, that yielded 40 bushels and upwards to the acre. It grows very strong, and is not liable to be laid by heavy rains. I will warrant it free from any soil whatever. I did not see in the eleven bushels, a particle but Wheat; and I have sown it on Clover seed, on purpose that there shall be nothing but Wheat; and I will put nothing in the barn with it, so as to put it beyond the possibility of a doubt of its having any thing in it or getting mixed with other Wheat, which through carelessness is often the case. I have grown a great deal of it myself in England, and know from experience that for yield and quality, there is no Wheat to compete with it. Its general weight is from 64 to 67 lbs. per bushel. It is smooth chaff, and easy to thrash, which is not always the case with smooth chaff Wheat."

CONTENTS OF THIS NUMBER.

Agriculture in Schools, 210.
Agricultural College, 2 5.
Apple without a core, 210.
Apple Tree Worm, 216.
Alabama, letter from, 219.
Beds, to remedy dampness in, 206.
Budding, 211.
Books—Applied Chemistry, 220—New vol. Transactions, 221
Carbon consumed by Animals, 206.
Churn, Figure of Galt's, 207
Cattle—Sore Teats in Cows, 212—Names of, 221—Calves without Horns, 227—Hollow Horn, 230—Warbles, 229.
Cotton Gin, 216.
Conversion of single Flowers to double, 227.
Currant, culture of, 218
Cultivator Almanac, 231.
Draining Machine, 205.
Drouth, effect of, on Plants, 207.
Dairying, 21 .
Drag Rake, history of, 226.
Farming—in Delaware, 202—in Tennessee, 202.
Fences, improvement in, 217.
Farmer's Affairs, 227.
Foreign Intelligence, 223, 229.
Grape Training, 208—Frame for 217.
Gophers or Moles, to kill, 209
Gang System in England, 212
Grease Spots, to remove, 223
Gooseberry, Culture of, 218.
Grafting, 221.
Green Corn in winter, 226.
Geese, White Wild, 226.
Hand Mills, 227.
Horse—Cure for Glanders, 218.
Injury to Trees from Mice, 202.
Insect in Grass, 206.
Implements for Cultivating Corn and other Crops, 209.
Ink Spots, to remove, 211.
Indian Corn—to have Green in Winter, 226—Early variety, 226.
Kenrick's American Orchardist, 205.
Letter from Europe, 204.
Manures—Poudrette, 203.
Milk, qualities of, 230.
Notes of a Western Tour, 205.
North Carolina Lands, 220.
Plows—Centre Draft, 201, 222.
Peach Trees, 202.
Potatoes, propriety of Hilling, 2 6
Pears, Early Seedling, 207—Blight in, 230
Principles of Breeding, 213.
Plowing Orchards, 218.
Pumpkins, Culture of, 226.
Raspberry, Culture of, 217.
Silk Question Settled, 201.
Strawberries, Winter Killed, 203.
State of Agriculture in Ireland, 2 4.
Swine—Berkshire and Sand Hill, 206.
Straw Band Maker, 216
Seekonk, Agriculture of, 221.
Sugar Cane and Corn Stalk Sugar, 223
Stump Machine, 223.
Sour Soils, 223.
Symphytum or Comfrey, 225.
Sulphates of Ammonia, &c. 227.
Sheep on the Highlands of Scotland, 230.
Tennessee Agriculturist, 203.
Turnep Fly, Remedy for, 210.
The Settler in a New Country, 224.
Wind Mills, 202.
Wheat Insects, 229

ILLUSTRATIONS.

Galt's Churn, 207.
Grape Training, 208.
Corn Coulter. 209.
Illustration of Budding, 211.
Apple Worm, 216.
Sraw Band Maker, 216.
Grape Frame, 217.
Improved Fence, 217.

☞ ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion.

BEMENT'S AMERICAN HOTEL,

No. 100, *State-street, Albany.*

THE subscriber most respectfully announces to his friends and the public generally, that he has taken a lease for a term of years, the American Hotel, No. 100, State-street, Albany, which has been thoroughly repaired, completely renovated, and newly furnished throughout; and in quality of beds, cleanliness of rooms, will compare with any other establishment in the city.

In location, this house has many advantages, being situated in the centre and on one of the most beautiful and airy streets in the city; within a few moments walk of the Eastern and Western Rail-Road depots, and the landings of the steam-boats; about midway between the Capitol, City Hall, public offices, the banks, post-office, and business parts of the city, renders it very convenient for the man of business.

The subscriber places much reliance on the continuance and support of the *Agriculturists* throughout the union, who may visit the city, and pledges himself to spare no exertions, to render their stay agreeable, should they favor him with their company.

Three Hills Farm will be carried on as usual, under my own superintendance, by a careful manager, and the breeding and rearing improved stock, will be continued as heretofore. C. N. BEMENT.

Albany, July 1. 1844.

TO FARMERS, HORTICULTURISTS, &c.

GUANO.—The subscribers offer for sale 200 bags, about 220 lbs. each, of this valuable and economical manure recently imported from Peru. For particulars as to its quality, uses, &c. beg reference to the Cultivator of May and June, and the June number of the Boston Magazine of Horticulture. WIRGMAN & NEWMAN,

July 1—2t. 44 Front-street, New-York.

E. VAN SCHAACK'S MAMMOTH VARIETY STORE,

44 *Market-street, Albany, N. Y.*

THIS establishment has recently been greatly enlarged, embracing three sales rooms, each 60 feet in depth, and now presents the greatest variety of goods and largest assortment of *Wooden Ware. Baskets. Enameled and plain iron Hollow Ware, Shaker manufactures, Brushes, Combs, Pocket Cutlery. Scissors. Razors, Fancy Goods, Perfumery, Toys, &c. &c.* to be found in the country.

Ladies and gentlemen passing through the city, will confer a favor on the proprietor by calling to examine the assortment, though they may not wish to purchase. Merchants supplied on the most reasonable terms. E. VAN SCHAACK.

N. B A good assortment of Garden and Flower Seeds, Roots, Herbs, &c. constantly on hand. July 1—1t.

KENTUCKY BLUE GRASS AND HEMP SEED.

GEORGE, LAPPING & CO.

Seed and Agricultural Merchants, Louisville, Kentucky,

KEEP constantly on hand a good supply of Kentucky Blue Grass and Hemp seed, which they are willing to sell to eastern dealers on favorable terms. They are also dealers in Millet, Clover, Timothy, Orchard Grass, &c. july—2t.

TO FARMERS AND GARDENERS.

THE subscriber is now preparing synthetically the guano as by the analysis of Dr. Charles T. Jackson of Boston, and will be able to furnish it at 5 cents per lb.

The price of Sulphate of Soda is half a cent per lb. by the barrel of about 200 lbs.

The price of Nitrate of Soda is 5 cents, and the price of Sulphate of Ammonia, is 7 cents per lb.

Compound chemical whale oil soap has stood the test of three years use, and is found beneficial either as a wash on trees, and with a syringe over the fields where the marauding insects, such as the ants, (either black, red or white) curculio, turnep beetle, coccus, rose bugs, leaf lice, peach, apple and pear tree insect, caterpillars, &c , have hitherto made their ravages upon the exotic and indigenous plants, roses, geraniums, cactus, rhododendron, camelia, orange, lemon, pear, apple, cherry, apricot, nectarine and peach trees, grape vines; and in the fields, the wheat, rye, rice, cotton, sugar, tobacco, cabbage, turneps, potatoe, cauliflower, salad, celery and other plants. For further particulars apply to DR. LEWIS FEUCHTWANGER,

July 1—1t. No. 60, Maiden Lane, New-York.

AGRICULTURAL IMPLEMENTS, &c.

THE undersigned are Agents in this city to sell the following celebrated machines, viz:

Hussey's Premium Corn and Cob Crusher.
Dickey's " Fanning Mill.
Platt's " Portable Grist Mill.
Hovey's Premium Straw Cutter, (Spiral knives.)
Warren's " "
Hull's Stalk and Straw Cutter.

Being proprietors of the now celebrated "Warren's Improved Portable Horse Powers and Threshing Machines," for one, two and four horses, they continue to manufacture and sell them with increased success and satisfaction. Of the two horse machines, one correspondent states, "after a fair trial with barley and wheat with two horses, I can thresh in a clean and thorough manner, at least 30 bushels of wheat in one hour, with comparative ease to the horses; and this day, without driving them at all hard, in sixty minutes, 200 sheaves of wheat of a large size were threshed out in a clean and excellent manner, which is about 15 bushels. The straw, after threshing, is easily bundled; and as it comes out whole and unbroken, I consider these machines on that account important; and as only three hands are required to do the work well, I think the great saving of labor such an item as to make them what is much needed by many of our farmers in this section of country."

The prices for these machines are very low, viz:—two horse power alone, only $50—two horse power and thresher, together, $75—one horse power and thresher, $60—four horse power and thresher, from $100 to $110. Cash payable in this city on delivery. Liberal deductions made on all machines and implements to dealers.

L. BOSTWICK & Co.

July 1—1t. 146 Front street, New-York.

PARTNER WANTED.

A GENTLEMAN in the Rock River country, Ill., owning a tract of land capable of supporting ten to fifteen thousand sheep, is desirous of engaging a partner to embark with him in the sheep and wool growing business. His location is unsurpassed for all the requisites for keeping sheep. The region is elevated, commanding a view of the surrounding country for the distance of ten to twenty miles—presenting to the eye some of the most beautiful scenery imaginable. Sheep have proved healthy there—showing an increase in weight of 10 to 20 per cent on being brought from Ohio and Indiana.

FARM FOR SALE.

☞ The same gentleman offers for sale another farm, near the one mentioned, and lying, also, on Rock River. It is believed to be one of the most desirable situations in the western country—combining all the varieties of surface required for utility, convenience, or beauty, with land enough for feeding eight or ten thousand sheep, and other stock in proportion. There is now native meadow on which hay of excellent and nutritious quality may be cut, equal to wintering ten thousand sheep. On it is a farm house and some fencing. The whole is bounded on one side by Rock River, and on the other by a never failing creek of pure water, equal to driving a flouring mill. But two miles distant, is a thriving village, where may be found abundance of shops and useful artizans. The place is perfectly healthy, and for beauty and scenery is rarely equalled; and in the hands of a person of taste and means, is capable of becoming perfect for the useful and ornamental. There is a grove of 90 acres on the place, situated on the bank of Rock River, which stream, it is believed, will shortly be made navigable to the Mississippi.

SHEPHERD WANTED.

☞ The owner of the above mentioned farms, wishes to procure the services of a good practical shepherd, of industrious, prudent habits and good judgment. (A scotchman would be preferred) It is not wished to confine his attention to *one* flock; but rather that he should have a general oversight of *several flocks* which the gentleman proposes keeping—all within a circle of some six to nine miles. It is desirable that he should be familiar with the diseases of sheep and modes of cure—the best food and other treatment most likely to ensure success. He should also be capable of keeping such accounts as are useful, touching the stock, &c. For further information, apply, *post-paid*, to the Editors of the Cultivator, Albany. July 1, 1844

THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

VOL. I. ALBANY, AUGUST, 1844. No. 8.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

SEVEN copies for $5,00—FIFTEEN copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "THE CULTIVATOR," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT

M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,

where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE FARMER'S MUSEUM,

(*Each no. containing* 16 *pages*,)

Is made up of selections from this paper, and published monthly at 50 cents a year—Fourteen copies for $5,00—Thirty copies for $10.

THE CULTIVATOR.

MONTHLY NOTICES.

COMMUNICATIONS have been received since our last, from J. J. T., J. Hitchcock, J., G. B. Smith, A. J. P., R. Chambers, D. J., Naturalist, S. W. Jewett, Jas. Bates, Nathan Howard, L. A. Morrell, J. Richardson, Rho., D. Y., James Hall, T. J. Lewis, S. Y., Alfred Kennedy, J. P. Norton, S. Walen.

Our thanks are due to T. H. WEBB & Co. booksellers, Boston, for a copy of the 6th edition of Judge Buel's "Farmer's Companion." Though this work has reached its 6th edition, it is not so generally known as it ought to be. It would be a valuable addition to all our School District Libraries.——To ALEX. WALSH, Esq. Lansingburgh, for the "New Sporting Almanac for 1844," a beautifully illustrated English annual.——To COLLINS, BROTHER & Co., booksellers, New-York, for Dymond's "Principles of Morality," abridged for the use of schools, by Caroline M. Kirkland.——To A. G. CARLL, Esq., Cor. Sec. Queens Co. Ag. Soc. for the Transactions of that Society for 1843.——To P. L. SIMMONDS, London, for his Colonial Magazine, No. 5. Nos. 1 and 2 were previously received.

☞ Mr. KENNEDY'S and Mr. JEWETT'S papers came too late for this month.

A. J. P.—"Yes," we shall be glad to receive the promised paper.

A. M. W.—Small bills of the Alabama banks are received in payment for subscriptions to our paper.

F. H., Gorham.—Your letter has been forwarded to the gentleman interested, in Illinois.

E. S. Jr.—The kind of Subsoil Plow you inquire for, can be obtained of Pruyn, Wilson & Vosburgh, in this city, and we presume also at the Seed and Implement store at Rochester. Price, $10 to $15.

R. A. B.—For Dorking Fowls, address H. T. CHAPMAN, New-York, who will have them for sale in the autumn. He could probably furnish the other articles wanted. We believe his price is $5, for a cock and two or three hens.

"A SUBSCRIBER."—We gave in our May number, p. 179, all the information we possess in relation to the machine for ditching, mentioned in Mr. Ellsworth's Report.

☞ A gentleman recently called at the Cultivator office and paid for the paper for one year, directing it to be sent to "*Julius A. Carpenter*, Kane co. Ill." We cannot send it till we know the *post-office* to which it should be sent. Will the person who paid the money, furnish it?

AMERICAN HOTEL.—It will be seen by an advertisement in this paper, that Mr. BEMENT, of the Three Hills Farm, has taken this well known house, and resumed the business from which he retired several years since, when he removed to his farm. "The American" has been thoroughly refitted and newly furnished from top to bottom, and we venture to say that those who visit it, will find no reason to complain of mine host or his appliances.

SAMPLES OF WOOL.—We are indebted to Maj. SANFORD, of Orwell, Vermont, for samples of wool from his flock of Merinoes—a notice of which, together with a portrait of one of his bucks, will appear in our next. We should be glad to receive samples from the fleeces of Col. RANDALL of Cortland, and Maj. REYBOLD of Delaware, notices of both of which will be found in another part of this paper.

POUDRETTE.—We have been requested to call attention to the advertisement of Mr. Dey, in this paper. Those who wish to secure a supply of this article, can now have an opportunity of obtaining it on advantageous terms.

VETERINARY.—REUBEN CHAMBERS, Bethania, Pa., recommends the Thompsonian medicines for the diseases of animals. Those disposed to try them, can obtain them of any Botanic physician. We are not disposed to entertain a discussion as to the comparative merits of the "life-destroying lancet," and the "glorious system" of Dr. Thompson.

THE WHEAT CROP, in this and the adjoining counties, has been very seriously affected by the fly, described in another part of this paper. In this, and Schenectady county, very many fields are entirely destroyed, and we learn that this is the case in some parts of Vermont.—*In Western New-York*, the crop is said to be far better than for many years past, equal in yield per acre, to the great yield of 1833.

CROPS IN OHIO.—By a gentleman from Muskingum county, O., we learn that much of the wheat on the rich and bottom lands, has not filled well. The straw was very heavy, but the prevalence of wet weather after it came into head, caused much of it to fall down. There is also considerable rust, so that on the description of land mentioned, the crop will be altogether a light one. The *hill land* wheat is generally good, and it is thought there will be as much (or more) produced in the State this year, as there was last year. There was considerably more ground sown than for the last year's crop. The prospect is fair for heavy crops of corn and oats.

The Crops in Queens County, L. I.—Extract of a letter from S. Youngs, Esq., dated Oyster Bay, July 15. —"Last week we finished gathering our hay and winter grain, and sincerely may we return thanks for the most favorable and propitious weather not only while harvesting, but for the whole season, having had frequent showers and warm weather, which is essentially requisite to our sandy soil, and the "Common Parent" is now truly teeming with the most luxuriant and abundant summer crops we were ever blessed with. Corn, oats, potatoes, &c., never looked better. Hay was not as abundant as in previous years; the drouth last season having killed all the young clover, which made it requisite last spring with many farmers to plow their new mowing grounds and plant corn on them. The fly made bad ravages with our wheat, all was injured, and many farmers have not more than half a crop. We are making preparations for our County Agricultural Fair, which will be held in October."

The Hay Crop.—In most of the New-England States the crop of hay will be less than usual. From Maine, we learn that the crop, though fair, will not be so good as that of last year. In this State, so far as we have heard, it is good.

"The Economy of Farming, from the German of Prof. Burger, with copious notes from other German writers, by E. Goodrich Smith."—We are glad to hear that this work, which we noticed on its first appearance, in our last vol. p. 140, is well received abroad, orders for 200 copies of it, having been received from England. It contains a vast amount of the practical details of German agriculture, which have not before appeared in an English dress, and should be in the possession of every reflecting farmer. Price, 50 cents.

Prolific Sheep.—Mr. E. Chesebro of Guilderland, informs us that he has *ten ewes*, a cross of the South Down, which have reared this season *twenty-one lambs*—all good ones—from the same ten ewes, he last year reared fifteen lambs.

Shelter for Sheep.—Mr. Shanklin, of Tennessee, wishes to know the method of making shelter for sheep. As far south as Tennessee, almost any shelter that will turn rain, will answer. Where the climate is more rigorous, rnd protection from cold is requisite, better shelter must be made. Some crotched sticks placed in the earth with poles or rails laid over and covered with straw so as to shed rain, will do for a year or two pretty well. A dry spot should be chosen for erecting such hovels, and they should be barricaded against the wind on the most exposed sides. *Framed sheds*, with or without hay-lofts over them, may be made by any carpenter. Under these, the feeding racks or boxes may be arranged to suit the convenience of the farmer or shepherd.

Horn-piths.—The value of horn-piths for manure is spoken of in a late report of the N. Y. Farmers' Club, published in the N. Y. Farmer and Mechanic. The piths were put in trenches a foot deep, and the vegetation on these trenches was most extraordinary, and the manure "is believed capable of enduring twenty years." There is no doubt that these piths are a powerful manure, and yet there are probably tons of them wasted in this neighborhood every year. We saw a large pile of them the other day lying on the side of a hill, near one of our principal streets, which had been thrown there merely to get them out of the way; and if they were not manuring the ground, they were certainly manuring the *air* to a considerable extent. Around some of the slaughter-houses, also, there is an immense quantity of manure lying waste, or sweetening the water of our springs and water-courses. What is the use to talk of importing *guano*, or buying *poudrette*, when the means of obtaining abundance of the best of manure are accessible at home?

Nest Eggs.—Mr. N. Howard, Stephentown, N. Y., informs us that he prepares nest eggs in the following manner:—"Take walnut, or some heavy wood, turn in a common lathe, eggs in proper shape, as large as a turkey's egg; whitewash them, and when dry, they are fit for use. They are durable, and the lime quality is agreeable to the hens. Mine lay to such nest eggs, as well as to those of their own laying."

Barbour Co. (Ala.) Ag. Society.—This efficient Society seems to be going forward with their work in the right spirit. At a recent meeting, resolutions were adopted, on motion of Col. Alex. McDonald, recommending a more efficient action on the part of their State Agricultural Society, and also recommending the organization of Farmer's Clubs.

Good Wheat.—The Delaware Journal states that F. Leonard, Esq. harvested this season, from three acres of marsh ground near Wilmington, 120 bushels wheat, weighing 62 lbs. to the bushel.—Mr. H. Capron states in the American Farmer that he has raised on a field of 20 acres, an average of 43 bushels per acre, of the Mediterranean wheat. He thinks this demonstates pretty clearly the success of improving the worn out fields of Maryland. *So think we.*

Clover Sod.—Mr. Helem Sutton answers several inquiries in relation to the crops and soil of Seneca county in this State, through the medium of the New-York Farmer and Mechanic. He says, "it is considered by farmers who make money by the business, that a clover sod is best for all spring crops, and rather best for summer fallow, and safest for enriching a farm."

Charcoal.—In reference to the effect of charcoal, Mr. S. says, "my farm was in the earliest settlement of this country, owned by a man who burned charcoal, and I find on those old beds always large wheat and bright straw, even if the rest of the field is poor, rusted and shrunk; and in fact all kinds of grain on these coal beds are good."

"Keep it before the People"—That the outrages perpetrated on property in the shape of trees, are at last arousing legislative and judicial vengeance. The robberies practiced openly upon gardens and orchards and door-yards have long and keenly annoyed those who devote care and labor to the cultivation of fine fruits and the embellishment of their homesteads. This species of pilfering, so common with children, exerts a pernicious influence on the minds of the young and the old; for those who plunder their neighbors this way while young, are commonly more or less tainted with thievish propensities in maturer life. "Train up a child in the way it should go, and when it is old it will not depart from it." Mark, then, the influence of example—of good or evil example—upon the minds of youth:—"We do not know," says the N. Y. Express, "when we have been more pleased with a judicial decision than that which we find recorded in one of our late London files. A boy, fifteen years of age, was convicted, and heavily punished for breaking a bough from one of the trees in a public garden. The sitting magistrate, in passing sentence on the offender, took occasion to use the following strong and sensible language: "that although the damage in this particular instance was small, yet the practice of breaking trees occasioned great damage, and the inhabitants of the different squares were put annually to great expense, in consequence of these depredations. *Persons had no more right to take a branch from one of these trees, than they had to go into one of the houses and steal a piece of plate.*"—We hope this will be 'recorded for a precedent,' in every court in this country."

Preserving Butter.—Mr. G. Fox of Hartford, Conn., in a letter to Mr. Ellsworth, published in his last report, says—"There are many things required to insure good butter. The butter itself must be well made; that is, worked enough, and not too much, and salted with rock salt. This being well done, and the buttermilk all expelled, the butter may be packed in good white oak, well seasoned casks, well filled. In cool climates larger casks can be used. In hot climates it is best to have small casks—say from twenty-five to thirty pounds; so that too much need not be exposed while using. Then put these small casks into a hogshead, and fill up the same with strong pickle that will bear an egg, and the butter may be shipped to the West Indies or Europe, and kept perfectly sweet. I have never found saltpetre or su gar of any benefit. Butter of my packing has opened as good in the West Indies as it was in Connecticut. I will remark, that to keep butter in ice-houses, when it remains frozen, will answer, if the butter is to be continued in the same temperature; but if it is exposed to warm weather after being taken from the ice-house, it will not keep as long as if it had not been exposed to so cold a temperature."

DETECTION OF ACIDS IN SOILS.—Dr. C. T. Jackson says in the New-England Farmer that "the petals of the spider-wort, or *Tradescantia Virginica,* a common and bright blue flower, seen in many grain fields and gardens, will furnish, on being bruised and squeezed in a linen cloth, a rich blue juice, which has the property of turning *red by acids* and *green by alkalies.* The pulp, after being pressed, may be treated with a little alcohol, and will yield still more coloring matter.

GOOD COW.—Wm. Bellows, of Walpole, N. H., writes to the Mass. Plowman, that N. Giles, Esq. has a cow, "probably half Devonshire and half native," from whose milk there was made "from June 17th to 24th (fourteen milkings,) sixteen pounds and ten ounces of butter, which will keep till next spring." In skimming the milk, it is only necessary to cut round the edges of the pan, and the cream may be all lifted in an entire sheet. The cow, it is stated, has had nothing but pasture feed in summer, and "nothing but hay in winter; and this with roots and pumpkins while they last, is high feed enough."

APPLE-TREE BORER.—A writer in the Mass. Plowman, from whose initials (T. W. H.) we take to be Dr. Harris of Cambridge, says—"The apple-tree borer seems to have fled from this place. Neither beetle nor worm can I find among my own trees or those of my neighbors. Wishing to get a dozen or more of the *borer-beetles* to send to some friends abroad, I have been looking for them, in their season, during two years, without success." A copy of Harris' Treatise on Insects is offered to any person who will forward a dozen of the beetle of the apple-tree borer. It is directed that they be taken without rubbing, and thrown into scalding hot water, which will kill them in one minute.

POTASH WATER FOR TREES.—The Boston Cultivator says a pound of potash to a gallon of water makes too strong a wash for apple-trees—he has known trees so much injured by it that the bark had to be scraped off that it might not bind the tree. A pound of potash to a common pailful of water, he thinks sufficiently strong.

BEES.—D. Wakeman gives in the Cleveland Herald, his mode of catching the bee-miller or moth. He says: "I took two white dishes (I think white attracts their attention in the night,) or deep plates, and placed them on the top of the hives and filled them about half full of sweetened vinegar. The next morning I had about fifty millers caught; the second night I caught fifty more; the third night being cold, I did not get any; the fourth night being very warm I caught about four hundred; the fifth night I got two hundred." Were all these *bee-moths?* (*Galleria cereana.*) We should like to know.

CATTLE SHOW AND FAIR
OF THE
NEW-YORK STATE AGRICULTURAL SOCIETY,
At Poughkeepsie, Sept. 17, 18 *and* 19.

The trial of Plows will take place on Tuesday the 17th—General Exhibition, on Wednesday and Thursday, the 18th and 19th.

All persons who intend to compete for the Society's Premiums, must become members, which they can do by the payment of $1 at the time of entering their articles for exhibition.

All members of the Society will be furnished with a Member's Badge which will admit them and their families to the Show Yards. Tickets for admission, to those who are not members, 12½ cents.

The List of Premiums to be awarded at this Fair, was published in our Feb. number, p. 55. Since then, the following alterations and additions have been made:

Cattle—Best Ayrshire Bull, 3 years old, $15.—Second best, $10.

Jacks—Best, $15—2d best, $10.

Mules—Best pair, $15—2d best, $10.

Sheep—In the Classes for Sheep, the prizes are for the best *three* Ewes, instead of the "best Ewe," as heretofore published.

The following is a list of the Judges appointed to award the several Premiums:

On Farms—J. P. Beekman, Kinderhook; J. S. Wadsworth, Geneseo; Thomas Hillhouse, Albany.

On Trial of Plows—Caleb N. Bement, Albany; John Wilkinson, Union Vale; L. B. Langworthy, Rochester.

On Farm Implements—T. V. W. Anthony, Fishkill; Geo. W. Patterson, Westfield; Alvan Bradley, Whitesboro.

On Cattle, Class I—Alexander Grant, Dover; Anthony Van Bergen, Coxsackie; G. V. Sacket, Seneca Falls.

On Cattle, Classes II and III—Henry Whitney, New-Haven, Ct.; Dr. J. A. Poole, New Brunswick, N. J.; Thomas Hollis, Butternuts.

On Cattle, Classes IV, V, VI, VII, VIII—Adam Ferguson, Watertown, Canada West; George Randall, New Bedford, Mass.; Elnathan Haxtun, Beekman.

On Oxen and Fat Cattle—L. C. Ball, Hoosick; John T. Norton, Farmington, Conn.; Henry A. Mesier, Fishkill.

On Stallions—Lewis F. Allen, Buffalo; Theodore S. Faxon, Utica; John A. King, Jamaica.

On Breeding Mares—John C. Stevens, New-York; George Fordon, Geneva; Gen. A. T. Dunham, Watervliet

On Matched Horses—John M. Sherwood, Auburn; Wm. T. Porter, New-York; Duncan Robinson, Fishkill.

On Jacks and Mules—Jeremiah Johnson, Brooklyn; Noah Gridley, Amenia; Dr. Samuel McClellan, Nassau.

On Sheep, Class I—Henry Rhodes, Trenton; Wm. A. McCulloch, Greenbush; Elias L. Barton, La Grange.

On Sheep, Class II—Sanford Howard, Albany; Edward T. Hallock, Milton; William Fuller, Skaneateles.

On Sheep, Class III—Edmund Kirby, Brownville; Henry K. Morrell, Caroline Center; Hugh T. Brooks, Wyoming.

On Swine—H. S. Randall, Cortlandville; Samuel Youngs, Oyster Bay; Samuel Wait, Montgomery.

On Butter—Alexander Walsh, Lansingburgh; Z. Barton Stout, Richmond; R. L. Pell, Pelham.

On Cheese—Hon. Elijah Rhoades, Syracuse; W. A. S. North, Duanesburgh; Tobias L. Hogeboom, Ghent.

On Maple and Corn-Stalk Sugar—F. J. Betts, Newburgh; Myron Adams, East Bloomfield; Morgan Carpenter, Stamford.

On Silk—O. Hungerford, Watertown; J. R. Barbour, Oxford, Mass.; Daniel Stebbins, Northampton, Mass.

On Domestic Manufactures—Hon. Samuel Works, Lockport; Ransom Cook, Saratoga Springs; Joseph Arnold, Kingston.

On Vegetables—Wm. Wilson, Albany; T. Bridgman, New-York; D. B. Futler, Hyde Park.

On Fruits—J. J. Thomas, Macedon: J. F. Sheaf, Poughkeepsie; Albert Heartt, Troy.

On Flowers—James Lennox, New-York; A. J. Downing, Newburgh; M. B. Bateham, Rochester.

On Plowing—Joel B. Nott, Guilderland; Elon Com stock, Rome; Martin Springer, Brunswick; Henry Staats, Red Hook; Warner Abbot, Otisco.

On Discretionary Premiums—Hon. Robert Denniston, Salisbury Mills; Hon. Abram Bockee, Federal Store; Samuel Ackerly, M. D., Richmond, L. I.; J. J. Viele, Lansingburgh; J. B. Duane, Duanesburgh.

On Cattle, &c. from other States—Hon. Levi Lincoln, Worcester; James Tallmadge, New-York; James Gow an, Philadelphia; H. L. Ellsworth, Washington; J. W Thompson, Wilmington.

FEASTING.—George Egerton, eldest son of Lord Francis Egerton, M. P. for South Lancashire, lately attained his majority, on which occasion he gave a public dinner, at which several thousand persons were present; 4,000 lbs. of meat were cooked, and 17 cwt. of plum pudding. There were 1,500 gallons of ale, 54 gallons ginger beer, 36 gallons lemonade, &c.

A DAY IN THE COUNTRY.

VISIT TO LINDENWALD.

We lately passed a beautiful summer's day in the vicinity of Kinderhook. Among other places of interest, we visited *Lindenwald*, the seat of ex-president Van Buren.

Lindenwald, formerly the residence of Judge Van Ness, is pleasantly retired, and commands a very agreeable landscape view, the most prominent features of which are the Catskill mountains, whose elevated summits are often veiled by the shadowy cloud.

We found Mr. Van Buren at home, and accompanied him in a walk over the farm. When he entered on the occupancy of this place on his retirement from the Presidency, three years since, it was much out of order: the land, having been rented for 20 years, and been under cultivation for the period of 160 years. Several of the buildings had become poor, the fences were old and were rotting down, and bushes and grass of wild growth had taken possession of much of the farm. During the short time it has been under Mr. Van Buren's management, the place has been greatly improved, and a course is now fairly begun by which a handsome income may be derived from it. The garden and pleasure-grounds have been enlarged and newly laid out—hot-houses have been erected—and a large number of fruit and ornamental trees, shrubbery, &c. have been planted. The greenhouse contains a collection of exotic fruits and plants, among which were some fine grapes just ripening. In the garden we noticed fine samples of all the fruits of the season, and some of the finest melons we have ever seen, (so early in the year,) in this latitude.

Among the objects which give beauty and interest to the grounds, are two artificial ponds in the garden. They were easily made by constructing dams across a little brook originating from springs on the premises. Soon after they were made, (three years ago,) some fish were put into them, and they are now so well stocked, with trout, pickerel and perch, that Mr. Van Buren assures us they will afford an abundant supply for his table. This is a matter well worthy of consideration. There are many situations where such ponds may be made, and, with a trifling expense, the luxury of *catching* and *eating* a fine trout or pickerel may be had at any time.

Several of the fields have been enclosed with new fence, and several buildings erected; among which are a very tasty farm-house, and a barn calculated for storing 150 tons of hay after being pressed.

But perhaps the most important improvements which have taken place on the farm, have been made on a tract of *bog land*, thirteen acres of which have been thoroughly reclaimed, and are covered with luxuriant crops of grass or oats. Three years ago, this land was almost worthless. It was first drained by ditches. The stumps, bushes, &c. were then cut out and burned, and the ashes spread on the land. It was afterwards sown to grass—using a mixture of timothy and red-top seed—three pecks to the acre. The whole cost of reclaiming was thirty-eight dollars per acre, and the land will now pay the interest of a hundred to a hundred and fifty dollars per acre. In this Mr. Van Buren has set a good example, which we hope will be followed by other farmers in the neighborhood who have lands similarly situate.

The *potatoe crop* is one of considerable consequence on this farm, as well as on others in the vicinity. Mr. Van Buren raises the variety called *Carters*, produced from the *ball* a few years ago by the Shakers. He considers these far the most profitable kind known. They yield well, and their quality is thought equal to any. Mr. Van Buren assured us that all which could be raised would readily command fifty cents per bushel, by the quantity, in New-York. All the crops appear to be well managed, and are promising. Leached ashes were tried here last season with excellent success. Great benefit has also been found from plowing in clover.

Mr. Van Buren keeps but little stock, a considerable object being the sale of hay, which a large portion of the farm is well calculated to produce—the horses for carriages and farm-work, with a yoke of oxen, and a sufficient number of cows to afford milk and butter for the family, comprising about all. We did not see the cows, but were informed that they were grade Durhams, and were excellent for the dairy. We were shown a good three years old Durham bull, whose head and limbs denote good blood, and whose mellow skin indicates that he is a thrifty animal.

All the improvements of which we have spoken, have been planned and executed under the immediate supervision of Mr. Van Buren, who finds in these useful enterprises a salutary exercise for the faculties of the mind and body, which seems to be highly enjoyed. In this pleasant retreat, removed from the cares of state, and the turmoil of political wars, he,

> ———" With a choice few retired,
> Drinks the pure pleasures of a rural life "

VISIT TO THE PRESIDENT OF THE N. Y. S. AGRICULTURAL SOCIETY.

In the village of Kinderhook, is the residence of Dr. J. P. Beekman, President of the New York State Agricultural Society. Dr. Beekman's *home place* is not large, (embracing only about 100 acres,) his principal farming operations being carried on at three other farms, situated from two to three miles distant. His primary objects are wool and grain. He has about one thousand sheep, mostly of Saxony blood. Their wool is very fine, and Dr. B. expects to realize sixty cents per pound for the clip of this year. We were shown the fleeces, which averaged two pounds ten ounces each, were very clean, and put up in good order. We saw none of the sheep, excepting a few bucks, and those we had not an opportunity of closely examining, but from their appearance, should think some of them were excellent animals.

Dr. Beekman gives his sheep generally no grain or roots—feeding in winter principally on hay, which he is careful to have cut at the proper time and well cured. To some of the feeble sheep, he sometimes gives a few oats. He finds his mode of sheep husbandry attended with very good profits. He sells no hay—finding that he can, in the average of seasons, turn it to better advantage by feeding sheep, besides the great benefit the sheep are to the land. The return for his hay is usually ten dollars per ton. Every farmer can see that this is profitable farming, because hay at ten dollars a ton, *on the farm*, is a profitable article.

Dr. B.'s course of farming, on his sheep farm is very simple—the routine being merely grain, hay, and pasturage—the latter affording the best possible preparation for wheat—and the fertility of the farm has been constantly increasing under this management.

Plaster has been extensively used for many years, particularly on clover amd Indian corn, with the best effects; but its effects are not now as visible as formerly; and *leached ashes* have taken its place in a good degree, the latter being now found most useful.

Eradication of Couch Grass, (*Triticum repens.*) Many of the farms about Kinderhook are overrun by this pest. Dr. Beekman has hit on a good plan to eradicate it. He has found that if he can keep the ground thickly covered for a year, with some other crop, the couch-grass dies—it is *smothered* out. The plan is this: if there is a piece of ground on which this grass has become troublesome, it is pastured with sheep till July—then evenly turned over with a plow, and sown immediately to buck-wheat. The crop starts quickly, gets the lead of the couch-grass, and soon covers the ground. The next spring, the ground is planted to potatoes—they, also, thickly shade the ground, and continue to do so for nearly the whole season, which pretty effectually does the work for the couch-grass.

Lime on Sorrel.—To ascertain, if possible, whether lime will kill sorrel, Dr. Beekman had several loads of good lime spread on some land which was much infested with this plant. It was spread in the central part of a field thick, that the effect, if any was produced, might be seen. After a lapse of two years, *no* effect whatever has been discoverable, either for or against the sorrel, or any other plant. The soil is rather light, inclining to gravel. On some other descriptions of soil, the lime would probably have produced beneficial effects as a manure.

Dr. B. keeps very particular accounts of his farming operations, and is able to calculate accurately the "loss and gain." He has sometimes rented his lands, reserving the right to direct as to their management—giving to the tenant, as the custom is, one third of the crops—the tenant performing all the hand-labor, and the landlord furnishing the necessary implements, teams, seed, &c. and paying the taxes. At other times he has managed his farms himself, hiring all the labor. On comparing profits, he found he made from $150 to $200 a year more, under his own management, than when the land was rented. We have no doubt that similar results would generally follow, under *good* management, and we would recommend the example to some farmers within our knowledge, who under the idea that they cannot make their lands profitable in their own hands, or with a view to "save trouble," resort to a system of renting, by which, in a few years, their farms correspond to Solomon's description of the garden of the slothful.

There is considerable Indian corn raised in the vicinity of Kinderhook, and in general the present crop looks well. We noticed some farmers practice very thick planting. In some fields the rows were only three feet apart, the hills eighteen inches apart in the rows, and four stalks to the hill. We do not hesitate to say this is too thick. Dr. Beekman's crop was planted at wider distances in the row, (by six or eight inches,) with not more than three stalks to the hill. The prospect is fair for a good yield—in fact he generally gets from fifty to seventy bushels to the acre.

The wheat crop in this neighborhood is generally very poor. It was much winter-killed, and has suffered some from rust, and much from the worm, or maggot in the head, and some from the Hessian-fly. Rye is good.

The farmers of Kinderhook are generally forehanded, and some of them evince as good management as is to be met with anywhere. Money is *made* here by farming—many instances were mentioned to us where men who had begun the world by "hiring out by the day," had, in the course of twenty or twenty-five years, accumulated property to the amount of forty to sixty thousand dollars, wholly by farming.

RELATIVE PROFITS OF FREE AND SLAVE LABOR.—Dr. Beekman related the following history in illustration of this point. During the period in which slavery was tolerated in this state, a gentleman owned a farm at Kinderhook consisting of 750 acres, in the cultivation of which he employed ten slaves. The products of the farm were always insufficient to support the family and carry on the farm, and had it not been for the business of blacksmithing, which was carried on by the owner of the farm, (but with a set of hands kept expressly for the purpose,) he could not have made a living. When the gentleman died, the farm was divided into three parts, among the heirs. In the mean time slavery, in this state, was abolished. The farms were carried on by *hired* labor; the owners raised larger families than their father did—educated them better—lived better—and each, from one third of the original farm, accumulated a handsome fortune.

APPLICATION OF MANURES.

The value and necessity of manures to successful farming, is now generally admitted, but there is still much that is faulty in the modes of applying them: and while it is acknowledged that there is still much to learn respecting their operation, there are a few principles that experience teaches are worthy of more notice than has yet been given them.

One of these is that in the same soil, some varieties of the cultivated plants require more manure for their growth and perfection than others. Every farmer is aware of this; he knows that corn requires more manure than peas or beans; and that some of the tap-rooted quick growing plants, will, with a small allowance of manure at the outset, give good crops on soils where the grasses, or wheat and barley, would be a failure. Few, however, have inquired into the reason of these facts, or allowed them to have their proper influence in the application of their manures. The causes of this difference in the requiring of manure, are several; one of them is their adaptation to drawing nourishment from the air, instead of depending solely on the soil for it. Quick growing plants with broad leaves, and few roots, or those single and deep penetrating, possess this power in a remarkable degree. Only examine the root of the common pea for instance, and compare it with that of corn or wheat, and this difference will be manifest at once. The root of corn spreads in every direction; it clearly requires a large and rich pasture; its double sets of roots seem provided at once for support and nourishment, and it is remarkable that the last throwing forth of the roots, like those from the vines of some of the cucurbitæ, takes place precisely at the time when large supplies of nutriment are required for the formation of the fruit. The root of the pea on the contrary is very much smaller in proportion to the bulk of the plant; it does not spread like those of corn and wheat, but it penetrates to a considerable depth, and seems more adapted to provide the moisture than the nutriment of the plant.

Another cause why plants do not require equal supplies of manure, is to be found in the fact of their not all consuming the same time in arriving at perfection. As a general rule, it may be said that the longer a plant is in the soil before it matures its seeds, the more the soil is exhausted. Of this, winter wheat is a well known instance as compared with summer wheat; but perhaps a still better example is that to which allusion has already been made, that of corn and peas. The last requires not more than two-thirds the time of the former for maturity, and the exhaustion of the soil by it, cannot be compared with the former. Buckwheat too, is of remarkably rapid growth, and hence it has been selected as one of the best plants known for the process of green manuring. Used in this way, it evidently returns to the soil more than it takes from it, fertilizing, instead of impoverishing, and leaving a much larger supply of organic matter for the use of the future crop, than existed previously.

A cause not remotely allied to the one just considered, is found in the well known result, that where the seeds are to be matured on the soil, more manure is required, or in other words, the exhaustion of the soil is greater, than where such maturity, or the formation of seeds does not take place. Thus while a crop of turneps or beets exhausts the soil comparatively little, these same plants when transplanted for seed are of the most exhausting kind, as every grower of seeds knows; and the same may be said of most of those roots that do not mature their seeds the first year. Clover is also a well known example of this. If clover is cut before it is mature, the roots seem scarcely checked in their vigor, new shoots are rapidly thrown out, and the exhaustion which has taken place is evidently of the slightest kind. On the contrary if clover is allowed to mature its seed, the effect which the process has on the exhaustion of both the soil and the plant, is of the most striking kind; so great indeed that an attempt at two crops of seed from the same plant is rarely if ever known, and a course of other crops and reseeding usually follows, where clover seed is grown.

From these considerations, which we are not able at this time to pursue farther, it would seem that the application of equal quantities of manure to all crops is a useless expenditure. That we should ascertain those upon which manure produces the best effect when applied, and not let the mere convenience of the application, determine its use. It is true there are few cultivated soils on which manure is not advantageous, but there are some crops to which large applications of strong or unfermented manures would be fatal. Thus corn will be the better for a quantity that would destroy wheat; and the pea requires less than the potatoe, as a direct application. There are some plants that require the stimulating or forcing, that characterizes the action of fresh manures; while that action to others, would be an injury instead of a benefit. Of this, the vigorous and productive corn grown in or around old yards, or deposits of manure, and the lodged, rusted, shrunken wheat of similar places, is a conclusive and instructive example. We are convinced that the best application of manures is a subject which has received too little attention from our farmers; and while he is to be commended who applies all the manure within his reach, more profitable results would be realized by many, were they to be applied more in consonance with the laws which govern the growth and nutrition of the several plants cultivated.

CUTTING BUSHES AND THISTLES.

From a time the memory of man goeth not beyond, our forefathers have recommended the "old of the moon in August" as the best time to kill bushes by cutting them. The time recommended may be a good one for this latitude, though we are not *lunatics* enough to believe that *lunar* influence has much to do with the effect of that operation. All may have noticed that there is a time in the summer when the growth of shrubs and trees stop, the wood hardens, and the buds of the next year form. According to our experience, it is at this particular juncture, when the sap undergoes a change, "turns," as the phrase is, that bushes are most likely to be killed by being cut. This change may take place earlier or later in different latitudes, or in different seasons, and hence we think it cannot depend on the position or phases of the moon.

The best mode of exterminating briars, that we have ever known, is to mow them close to the ground with a stout scythe, soon after the growth for the season has stopped, and afterwards pasture the ground with sheep. The sheep is very fond of the briar when it first starts from the ground, and if a sufficient number are turned on to eat the briars as fast as they appear, two seasons will generally exterminate them. They will not generally start much the same season they are cut, but it is important they should be fed down.

Plowing briars, we have found rather to encourage their spread. Many of the roots run below the reach of the plow, and every piece of a root will send up a new shoot, so that the more they are cut, the more they grow, unless the roots are brought to the surface and carried off or dried and burnt.

Bruising bushes has sometimes a better effect in killing them, than cutting, and for this purpose a tool called a "bush-whacker" is used. In killing whortle (or "huckle") berry bushes, sometimes troublesome in the rocky pastures of New England, this tool may be preferable to the scythe.

We have had the best success in killing Canada thistles by mowing them when they were just past full bloom. The root will then die down to a great depth, and if the land is in grass, the sward will often spread over the thistle-patch and give the next year a crop of good clean hay. We have not seen the digging of thistles (that is the Canada thistles) attended with much advantage. The roots run very deep—we have traced them three feet below the surface—and a very small piece only may throw up a new shoot. The other kinds of thistles, which are only annual, or at most biennial, are easily killed by cutting them off with a hoe, or a tool made for the purpose, just below the crown. This should be done as soon as they can be readily seen, for they often occupy the ground to the exclusion of the grass, and besides, where they are large, the grass which grows near them, cannot be eaten by stock, on account of the annoyance occasioned by their prickly branches and leaves. We have sometimes seen cattle forced to leave the best part of the pasture by these pests.

DISEASE IN COWS.

Mr. JOHN RICHARDSON of Connecticut, inquires the name of, and remedy for a disease which has lately broken out among milch cows, which is described as follows: "The first symptom is a stiffness in the limbs, which increases till the animal is hardly able to walk. The feet appear feverish, the hoofs grow long or shrivel up, the animal appears week across the hips, rises with difficulty, is soon very poor and of little worth through the season. Some have died, but they generally recruit in the fall after becoming dry." From this description we cannot say what the disease is, and are therefore unable to prescribe a remedy.

The same writer inquires what are *warbles* in cattle. They are worms in the skin, produced from eggs deposited by a species of gad-fly (*Œstrus bovis.*) Every farmer has seen them. The cattle dread the fly, and may frequently be seen running to the woods or bushes to avoid its attacks. The worms seem to occasion the cattle but little inconvenience, excepting that when they are nearly full grown, and are exposed to cold storms, their backs sometimes become sore from water soaking into the holes which the worm makes for its egress in the skin.

GUANO.

We have received from Mr. E. B. Brown, a small specimen of Guano just imported into Connecticut from the bird islands of Africa, and we shall be glad to receive the larger quantity promised. It can be sent in a box or cask, via New-York. Mr. B. makes some inquiries in regard to the mode of using it. In England it has been used for nearly all crops. Its comparative value is variously estimated. Some reckon a bushel equal to a "cart-load" of stable-dung. From fifteen to thirty-five bushels are recommended per acre—or from two to four hundred pounds. It is usually sown on the surface, or not buried very deep. It is a very powerful manure, and grass and other crops are said to be sometimes "burnt," by applying too much. The London Gardeners' Chronicle gives the following directions for the application of this substance:

"1. It should never be applied in contact with seeds, as it kills them as soon as they begin to vegetate.

2. It should be mixed as equally as possible with about four times its bulk of finely pulverized earth, or peat-ashes, (cold.) If sand is used, about twice its bulk will be sufficient.

3. The quantity per acre may vary from two to four cwt., according to the nature and quality of the land. Recent experiments have shown that a quantity which proved highly beneficial in poor soil, became deleterious upon land previously rich.

4. The best time for applying it is shortly after vegetation has commenced, and immediately before rain, or during damp warm weather.

5. The best mode of application is, to divide the quantity per acre into two or three equal parts, and sow them broadcast at intervals of about ten days or a fortnight.

6. For small allotments it may be more convenient to use it in a liquid state—in which case, mix 4 lbs. guano with 12 gallons of water, and let it stand for 24 hours before being used. The same guano will do for mixing again with the same quantity of water, after the first is drawn off."

THE BEE MOTH.

Mr. THOMAS J. LEWIS makes the following objections to "Howell's Bee-protector," noticed in our June number. He says he invented the same plan several years ago, but was obliged to give it up as worthless. "1st. Suppose there are six or more bees on the vibrating board next the hive, so as to depress it and allow them to enter, the bee moth will then have the same facility for entering as the bees, and there is no knowing how long it may be before the bees, or perhaps the bee-moth, will allow the entrance to close again. 2d. Should there be seven or more bees loitering on the other end of the board, which will close the entrance, then those upon the inside of the hive would have to call a meeting and appoint a committee of eight or more to counteract their weight, to let themselves out. 3d. On account of the necessary delicacy of its structure, it would be very liable to get out of order and prevent its operating from moisture swelling the wood or rusting the pivots, and dirt would be apt to collect from the inside on the end next the hive, keeping it open all the time. 4th. The confinement to which the bees would be subjected by any such apparatus, or even a wire screen placed before the entrance at night, is very annoying to them, as has been proved by that gifted Apiarian, Mrs. Griffith of New-Jersey, the original inventor of the Charlieshope hive."

Mr. Lewis has considerably studied the habits of bees, and believes that he discovered several improvements for their management, which when perfected and proved, he intends to bring before the public.

☞ The 17th annual Fair of the American Institute will commence on the 6th October, at Niblo's Garden.

CLEAN CULTURE

It is a fact that ground which is kept from vegetation of any kind will not dry up so much as that on which a crop is grown. There are many who doubt this, but if they would make a proper examination, their doubts will be removed. Make an experiment—take a piece of ground in the garden, and hoe it over every day, or often enough to keep all kinds of vegetation from starting. Sow another piece adjoining, with grass, or some kind of grain. After a drouth of two or three weeks, examine both pieces by digging into them with a spade or shovel. The earth of the grass or grain plat, will be found dry like ashes, to the depth perhaps of a foot or more. The other plat will be dried in only two or three inches—below that it will be found quite moist. Examine the ground in an orchard in a dry time, and if it is not naturally a wet piece of ground, it will be found dry to a great depth. If there is a tree in your corn-field, see if the ground is not much dryer near it than on similar ground away from the reach of its roots. The fact is, the roots of vegetation bring up the moisture from a greater depth below the surface, than it could be done by simple evaporation. This may be known by noticing how much more moisture is required to support a crop of corn when the stalks are nearly full grown, than in its earliest stages.

Now, from all this we deduce an argument in favor of *clean culture*—that is, a culture which permits no useless vegetation to grow among cultivated crops; the advantage of which would be to give the crop the whole benefit of the moisture and other nutriment of the soil, instead of giving a portion to the worthless weeds.

In a dry time, we frequently hear farmers say—"it will not do to work my corn or potatoes, they need all the grass and weeds to keep the ground from drying up." Now, this, as we have shown, is all a mistake—the grass and weeds make the ground dry faster and deeper. But it is alledged that corn has been injured by plowing or working it when the weather was very dry. We admit that this effect may have followed under particular circumstances. That is to say, if corn gets too large before it is worked, injury may be done. The reason is, that the roots have become extended, and the plow cuts off so large a portion of them, that the remainder cannot supply the stalk, and it soon withers. This is the way the "*fired*" corn, sometimes spoken of at the south and west, is generally produced. But it is only when the roots of corn have become widely extended, and are torn and mutilated in the operation of working it, that any such consequence follows. If the crop is worked, as it ought to be while it is small, no fears of injury need be entertained.

GOOD SHEEP.

Merinoes.—We copy the annexed notice of the produce of a select flock of Merinoes, owned by one of the vice-Presidents of our State Ag. Society, from the Courtland County Whig. They must be good sheep surely to produce fleeces worth $2,40 each. Such sheep ought to be exhibited at our State Fair. Will Col. Randall please send us samples of the wool?

"Profitable Sheep.—Henry S. Randall, Esq. of Cortland, has a flock including lambs, of 60 full blooded merino sheep. Their fleeces this season averaged a trifle over 5 lbs. of thoroughly washed clean wool, entirely destitute of any gum excepting the dark crust on the extremities of a few of them, and this wool sold readily to Dickinson & Hibbard of that place, for 48 cts. per lb. cash. There were no wethers in the flock and there were but two bucks to swell the average.

"A smaller and exceedingly choice lot of yearlings and two year old ewes fleeces, averaged the extraordinary amount of 5 lbs. 10 oz. to the fleece. A two year old buck (from which more than half a pound had been taken in samples) sheared 9 lbs. 12 oz. We understand these sheep have been selected with much care from the best flocks in this state and New England, and are not probably surpassed or hardly equalled by any flock in the United States. Their winter keep (a question of some interest in connexion with such an enormous product of wool) we learn on inquiry to have been as follows:—60 sheep fed hay morning and night—at noon daily received three bundles of oats and barley until Christmas, after which they received four bundles of oats. They received no hay at noon throughout the winter. The grain was cut greenish, and was considerably shrunken. This, with a comfortable shed and plenty of pure water, constituted their entire keep. Mr. Randall reared 102 per cent of lambs! We wish more of our farmers possessed such sheep."

Leicester Sheep.—The Delaware Republican gives the following account of the clip of the celebrated flock of Leicester or Bakewell sheep, owned by Major Philip Reybold, of that state. From all we have heard, we are led to believe that this flock of sheep is one of the the most valuable in the country. We should be glad to have from Major R. an account of their blood, and his mode of breeding and management. Will he not send a sample of his flock to our next fair at Poughkeepsie?

"Last week, we learn that Major Reybold, of this county, commenced shearing his large and valuable flock of Leicester sheep. On Friday he invited several of his agricultural friends to witness his operations, and partake of a "fatted lamb" of that famous breed. One hundred of the run of his flock were sheared under the inspection of Isaac Reeves, Capt. Maxwell, Dr. J. W. Thompson, and C. P. Holcomb, Esq., and averaged about 7½ pounds per fleece; some weighing nearly 9 pounds; few under 6, and generally from 7 to 8 pounds; a most extraordinary yield. Major Reybold's home flock consists, we are told of about 600, and as many more divided among his different farms.—We are informed, that out of ten shearers, six were grown up sons of the Major, all married men except the youngest, who certainly deserves to be.—Our friend describes the scene as one of the most patriarchal and interesting he ever witnessed: and of Major Reybold's whole farm, dairy, and agricultural arrangements as in the highest good taste and prosperity. The fine mutton of Mr. R. has been long celebrated. His great clip of long wool, we should think, under the present tariff will bring him handsome prices, and be admirably calculated for the manufacture of mouselin de lains and combing puposes. Success to him, and the agricultural spirit pervading Delaware."

AGRICULTURAL PAPERS.

A "Plow-Boy" has reached us from Cincinnati. He is an ingenious and spirited little fellow, and makes his interesting visits monthly, at a charge of only *twenty-five cents* a year! The *funny* letters, made out of ox-yokes, spades, rakes, scythes, reaping-hooks, &c., are worth ten times the cost, for aiding and strengthening the organ of *genius* in *other* boys! Conducted by A. Randall.

The New-England Farmer, Boston, has commenced its twenty-third volume. Next to the American Farmer, Baltimore, this is the oldest agricultural paper now in existence in this country, and is certainly one of the best. Edited and published (weekly) by Joseph Breck, Esq.

The Valley Farmer, Winchester, Va., No. 1 of the first volume, has reached us. It is well printed, filled with useful matter, and deserves encouragement. One dollar a year in advance. J. B. Bentley, publisher.

The New-York Farmer and Mechanic, is published semi-monthly at 208 Broadway, New-York, edited by S. Fleet. Terms $1 per year. It contains the report of the doings of the N. Y. Farmer's Club, which are highly interesting and useful, and is in all respects well conducted.

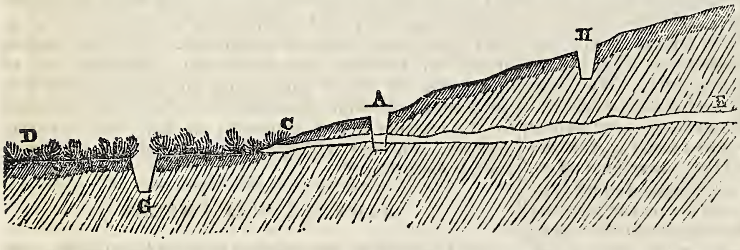
Disease in Poultry.—Turkies and dung-hill fowls which are kept closely confined, are often affected with a disease of the eyes and head, sometimes called "*sore head.*" It sometimes destroys the sight. Some suppose it to be contagious. We have known fowls to have it, which had their liberty in the day time, but roosted at night in a building or room fitted purposely for them. We observe that Mr. A. P. Cummings, at a late meeting of the Farmer's Club, New-York, gives it as his opinion that the ammonia of the dung injures their eyes. He removes the dung and scatters on the spot plaster of Paris freely.

THOROUGH DRAINING.

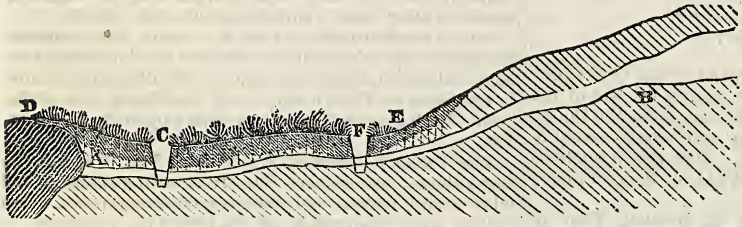
Draining land fully and completely, is one of the greatest improvements of modern agriculture, and few things better display the advantages of a combination of science with art, than a well conducted system of draining. The necessity of draining land, arises from several causes, all of which have more or less influence on the productiveness of the soil, or the value of the crop. Although moisture is absolutely necessary to the growth of plants, an excess of it is always injurious; and the extent of the injury is usually in proportion to the stagnancy of the water in which the roots are immersed. When soils are filled with water, air is excluded, and the consequent decomposition of animal and vegetable matter, so essential to the formation of the materials required for the growth and sustenance of plants, is almost entirely prevented. Soils also, containing an excess of moisture, are of necessity cold, and consequently unfit for many kinds of crops which would grow well were the requisite dryness and warmth given. The difference of temperature between a soil saturated with water, and the same when containing no more than is essential to the success of vegetation, varies from 6 to 8 degrees, according to the carefully conducted experiments of Dr. Madden and Prof. Johnston. When it is remembered that this difference in temperature would be decisive of the fate of some crops, Indian corn for instance, the importance of a proper drainage will be seen at once. A soil containing an excess of water, usually has a dense subsoil, a shallow soil to cultivate, and cannot easily be deepened, as drier soils can. They are therefore liable to pass from the extreme of too much moisture, to that of excessive drouth, and as the roots of plants are unable to penetrate the dense subsoil, wet lands, or those liable at times to have an excess of water, usually suffer much more from drouth than deeper, drier ones do. There are other reasons for draining land that will readily occur to the practical farmer, but these are sufficient to show the great utility and necessity of freeing all soils intended for cultivation of their surplus water.

An excess of water in a soil can usually be traced to one of two causes; that which rises from springs, in the soil itself, or that which falls upon it in rain or snow. Except in some peculiar districts of very level country, or where the natural drains for the surface water have been obstructed, it will be found that excess of water usually arises from springs; and so general is this cause, that there are very few farms in our country, in which there is not more or less land that would be benefitted by draining. The formation and direction of springs, is determined by the geological character of the country, the nature and dip of the strata, and their composition, whether of rock, clay, gravel, &c. Water from the surface, falls or percolates downwards, until it meets with some impervious strata, and along the surface of this it flows, until it reaches the outcrop of that strata, or sinks through creeks and fissures to some still lower strata or level. When the water reaches the outcrop of an impervious strata, springs are formed. If the quantity of water is considerable, it flows off in streams; if small, it only makes the ground wet and cold, frequently forming swamps, or otherwise rendering the soil unfit for cultivation.

Figures 65 and 66, from Low's Practical Agriculture, will show the nature of such strata, their action in forming springs, and the method of cutting them off by drains, better than a column of description.



In fig. 65, the strata below the line from D. to E. denotes an impermeable strata. The strata from C. to E. is the one containing the water, flowing out at C. The strata above is pervious and the water sinks through it into the one below. From D. to C. is seen the swamp made by water from the range of springs at C. H. is a drain cut so high as to produce no benefit, as it does not reach the water bearing strata. A. is a drain that cuts that strata, but will not effectually cut off all the water, as the distance from C. to A. is too great. Experience has proved that in all such cases of wetness caused by springs, the true course is to cut the drain "between the wet and the dry," or a little above, as at C. on the cut. The drain G. will carry off all surface water, and being in the lowest part of the ground, the drains that cut off the springs at C. may be conducted into it.



In fig. 66, is shown the manner in which several series of springs are formed on the same slope, or sometimes on the same level, and the necessity of cutting off each series by a separate drain, if we would effectually drain the soil. Thus it is easy to see that a drain at A. would be of little use, as not touching the source of the evil at all. Cutting off the springs at D. would have little effect, as those at C. and B. would continue the difficulty; and a drain at B. would only take off the water furnished by the upper water strata. The only thorough remedy is to cut as many drains as there are series of springs, to spread their water over the land.

Fig. 67 (see next page,) shows a front view of a sloping ground with a succession of wet or springy places on the surface, rendering it unfit for cultivation, and the manner in which the drains for conducting off the water and rendering the soil dry, were placed. The lower cut is a section of the same ground, exhibiting the impervious, and the water bearing strata, in succession, with the drains. In this instance, the water from the drains is conducted into a brook flowing at the foot of the sloping ground.

It not unfrequently happens that the land to be drained is level, and surrounded by hills or elevated grounds, from the base of which issue the springs that saturate and render useless the soil of the flat part. Most of the bog meadows, as such low lands are usually termed in this country, are made in this way; and experience shows that when drained and rendered fit for cultivation, they are the richest and most productive of our soils. This indeed could hardly fail of being the case, as they have from time immemorial been the depositories of the vegetable matter and wash of the adjacent lands. In some cases, these low lands have a natural outlet or drain; if not, the most favorable point for one must be selected, which, if possible, should be at the lowest part of the grounds, that all the drains necessary, may have a sufficient descent for the easy flow of the water. If this is not the case naturally, then the central or main drain must be made sufficiently deep at its outlet to permit the water to pass off without difficulty. The quantity of water to be carried off must determine whether the main drain is to be an open or covered one. If the quantity of water is large, an open drain is to be preferred; but if otherwise, it will be better that like the

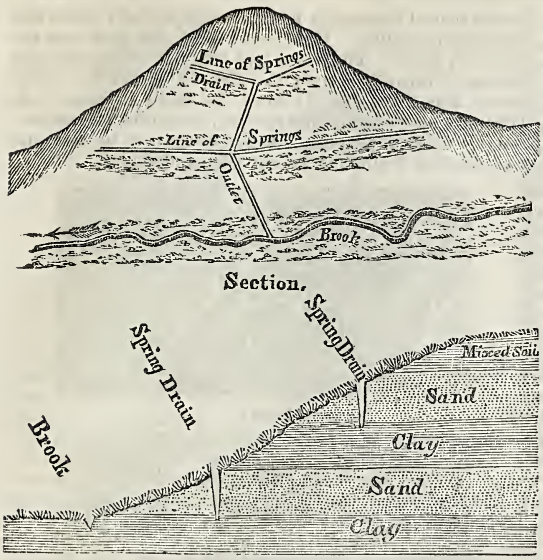


Fig. 67.

minor ones it should be covered, offering as it will in that case, less obstruction to cultivation. The liability of all large drains, such as central ones should be, to frequent obstructions from deposits of matter from the side drains, renders it necessary that in making them this fact should be kept in view, as open drains can be more readily cleared than covered ones, if by accident they are obstructed.

Fig. 68, represents one of these low meadows. D. shows the central drain, L. S. the drain passing around it at the base of the hills to cut off the springs, and O. marks the outlet which conveys the water into the brook B. The cross section given, shows the nature of the strata, with springs rising from the porous layer marked S. into the surface swamp. It is evident then, that a drain around the meadow will not make it dry; to do this, drains must be cut from these springy places to the center or side drains. It sometimes happens that the clay or impervious strata underlying the bog, rests on a porous one that would readily admit the water to flow off could it reach it. A knowledge of the geological structure of the district, will enable one generally to determine this point. When such is the case, if a well or boring is made through the impervious strata as at C. the several drains may be conducted to that point, and the whole made perfectly dry. No boring of this kind should, however, be attempted until the nature of the strata below is understood; as in some cases, instead of sinking, water would be found rising to the surface, and increasing the evil it was intended to obviate.

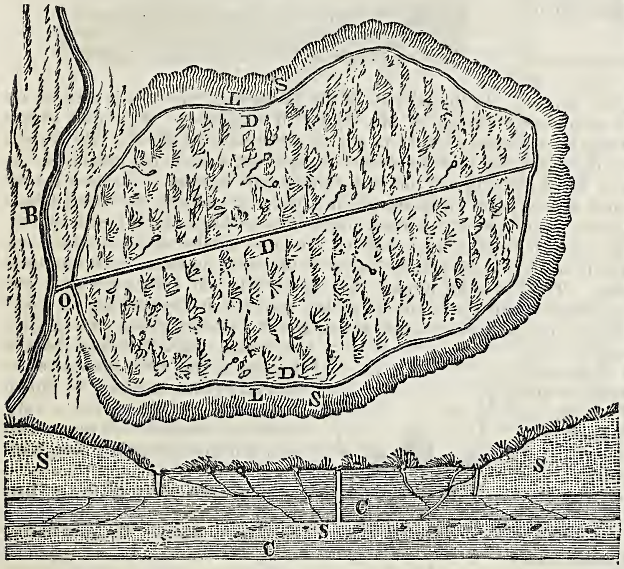


Fig. 68.

Thus far our remarks have had reference to the necessity and proper management of drains where the water arises from springs; but there is a large portion of our soils, where from the compact or clayey nature of the subsoil, the rain or surface water does not pass away freely, but remains until carried off by evaporation, or the slow process of absorption in such a soil. Such soils are of necessity cold, as all evaporating surfaces rapidly carry off heat, and the vegetation on them will always be sickly and defective, since the roots of all cultivated plants, if constantly submerged, cannot perform their functions in a proper or healthy manner. They will also be shallow, and resist all attempts at deepening, as clay, in water, even if disturbed by the plow, will soon run together, and become as compact as before. The only way then, to bring such soils into a state fit for production and easy cultivation, to make them deep and fertile, is to thoroughly drain them, as a preparatory operation. It has long been known that soils in which a considerable proportion of clay existed were among the strongest and best, particularly for wheat; but they were so difficult to cultivate, owing to their stiffness and their capability to retain moisture, that lighter soils have received, and justly, a decided preference. Thorough draining, as practiced in England and Scotland, and adopted to a considerable extent by some of the best farmers in this country, has materially lessened the labor of cultivating such soils, and in many cases doubled their value and productiveness. Once drained, they can be deepened,and made permeable to atmospheric influences, the action of manure is greatly increased, and the labor of cultivation proportionably reduced.

The number of drains necessary, their nature and depth, will be depending on the compactness of the soil, the tenacity with which water is retained, or the quantity it annually receives from the surface or otherwise. As a general rule, the drains should be so near each other, that no water will rest on the surface, between them, for any time after rain, or which will not readily pass from the soil into them. The distance may vary from 30 to 60 feet; but so long as the water does not readily leave the soil, or any unnecessary moisture is retained, we may be assured that the full benefit of draining has not been attained. The soils to be benefitted by the system of draining now under consideration, are usually nearly level, and when first cleared are covered with a covering of partially decayed vegetable matter, called muck. Perhaps there is no surer indication of a retentive and cold subsoil, than a thick surface covering of ' muck,' and yet the new settler, unacquainted with the science of agriculture, would be very likely to consider the presence of this substance as one of the most favorable indications of richness and fertility. In commencing a system of draining, one of the first steps is to ascertain their proper direction by leveling. This is in most cases readily determined by the eye alone, but where any doubt can exist, or important consequences are depending on the result, certainty should be secured by the spirit level or square. In no case where considerable water can be expected to flow in them, should the descent be great; as in such case, the wear of the current will soon destroy them, or render them useless. A greater number of drains, by which the water can be conducted in safety into an open one, or one of sufficient capacity to allow it all to pass off without danger, is the better way, where the water is in large quantities, or liable to collect in that state.

The necessity of relieving soils of their surplus water has long been understood, and open drains to remove it from the surface have long been used, but thorough draining, by cutting numerous deep drains, making a water-

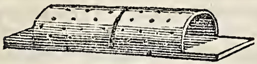


Fig. 69.

course at the bottom of these, and covering them in such a way as to form no obstruction to culture, is of comparatively recent invention and adoption; and has effected a complete revolution on soils of this class, where the location, and prices of labor and products have rendered such a course proper. The depth of drains should not be less than 30 or 36 inches, and in some cases it may be advisable to go deeper than this. The modes of constructing and filling drains should be determined by the nature of the soil to be drained, and the means of filling at command. In Scotland and England, draining tiles are to a great extent used. These are made in pieces of 14 or 16 inches in length, arched and perforated, and provided with a sole on which the arched pieces rest, and over the surface of which the water flows. Tiles have not been used to any extent in this country; where other materials are so abundant, it is not probable they soon will be. Figure 69 exhibits a specimen of drain tile, and figure 70, a section of drain in which the tile has been laid. In laying tile drain, more care is required in the filling in immediately above them than where other materials are used. Clean gravel is the best material to use for a few inches above the tile.

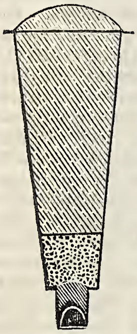


Fig. 70.

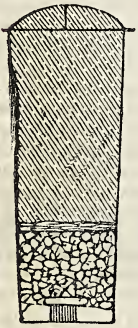


Fig. 71.

The most common, and the least costly mode of filling drains, is shown in figures 71 and 72. In these, the workman places a row of stones on each side of the bottom of the drain, leaving a free space adapted to the usual flow of water in it, over which, and resting on the side stones, are placed larger ones, either flat or round, as most convenient. On these stones, a thin layer of straw is commonly thrown, or fine hemlock or pine branches may be substituted. This is to prevent the loose earth as filled in, from choking the drain by falling between the openings of the stones. On this straw or brush, the earth is thrown with a shovel at first, but afterwards the plow may be advantageously used for filling the drain. When filled, the earth should be heaped a little on the drain, or in settling, a hollow will be left, which will collect the water in a channel, and injure the course below. Properly made in this way, and adapted to the make of the ground and the quantity of water, drains will last for ages, rarely if ever becoming obstructed in the least, never being in the way of any kind of culture, and keeping the soil dry and in good condition.

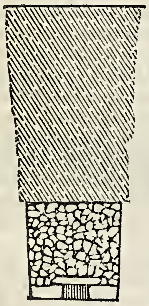


Fig. 72.

There are some low lands which require draining, so abounding in quicksands, that a stone drain cannot be constructed, their weight soon sinking them, or the sand speedily filling the water-course, aad rendering them useless. In such cases we have known a drain constructed of pine plank, one being laid for the bottom, and two others thickly notched at top and bottom, placed roof-like on this bottom one. With such an inclination as to ensure a current, this drain operates admirably, neither sinking or filling, and will last for many years.

Various other matters have been used for the filling of drains, where stone could not be conveniently procured. Of these, pine or hemlock brush, or small trees, appear to have been the most valuable and durable. Judge Buel, in reclaiming and bringing his farm into culture, constructed drains of which the figures 73 and 74 are a specimen. The ditches were made 18 or 24 inches wide, and three or four feet deep. The brush used was pine saplings, cut into lengths of five or six feet, and these were placed diagonally in the trench, the buts down and towards the outlet. When completed, the ditch was apparently filled. The brush was then well trod down, and the earth thrown in upon it. Fig. 73 shows the trench when first filled—fig. 74 after the earth is thrown on. Drains constructed in this manner, have thus far answered an excellent purpose. When brush is to be used, the walls of the drain must be cut perpendicular.

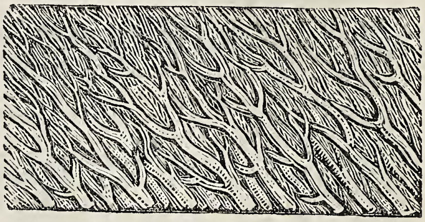


Fig. 73.

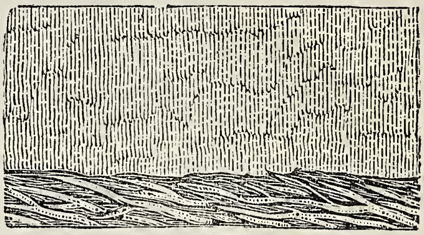


Fig. 74.

In the 2d vol. of the Cultivator, page 56, is a paper on draining by Mr. Ryder of Sing-Sing. His plan differs somewhat from any of those noticed above. He directs his ditch to be made three feet wide at top and three feet deep, and one foot wide at the bottom. He then selects such stones as are thin and flat, and sets them on the bottom of the drain, their thinnest edge or one corner downwards, and close to the edge of the drain. Others are placed against these in the same manner, until the drain is filled across. On these, thin flat stones are laid; and on these, others which will admit the passage of water are placed, and above all, the earth is filled in as before directed. Mr. R. thinks that the bottom of the drain should be the lowest in the middle, as shown in fig. 75, which gives a very good representation of the bottom of the drain as made by him, with its water way of stones.

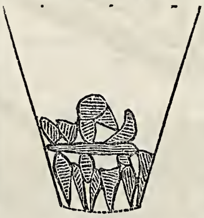
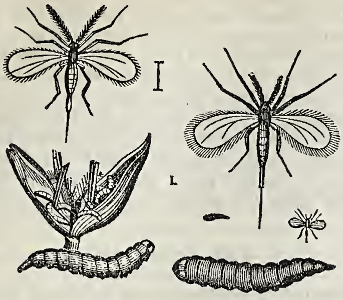


Fig. 75.

There are other modes of filling drains adopted; but the above will give correct notions of the methods most approved, and which have been ascertained to be successful. But the *method* of draining is not of so much consequence as the draining itself. Let the soil be but freed from water, and it will be seen that a most decided improvement has been effected; an improvement great as it will be permanent. Millions of acres, within a few years, have, from a state of worthlessness, been converted into the most valuable and productive lands of Great Britain by draining, and multitudes of instances may be found in our agricultural papers where equally favorable results have been obtained from the process, in this country. Indeed, we have never learned a single failure, or heard an individual who had commenced the system of draining, and tested its effects, that did not speak of it in terms of unqualified approval. It is only in connection with thorough draining that the subsoil plow can exhibit its full efficacy in deepening and ameliorating soils. Unless the water can pass off readily, the land when moved by the subsoil plow, will soon run together and become compact; but where the water passes off as it falls, the soil remains permeable, the roots of plants penetrate it easily, the fine mold and soluble humus penetrate and combine with the earths, and in a few years, the whole, as low as the plow moves, will be changed from its hard pan nature to mellow fertile soil.



INSECTS IN WHEAT—(Fig. 76.)

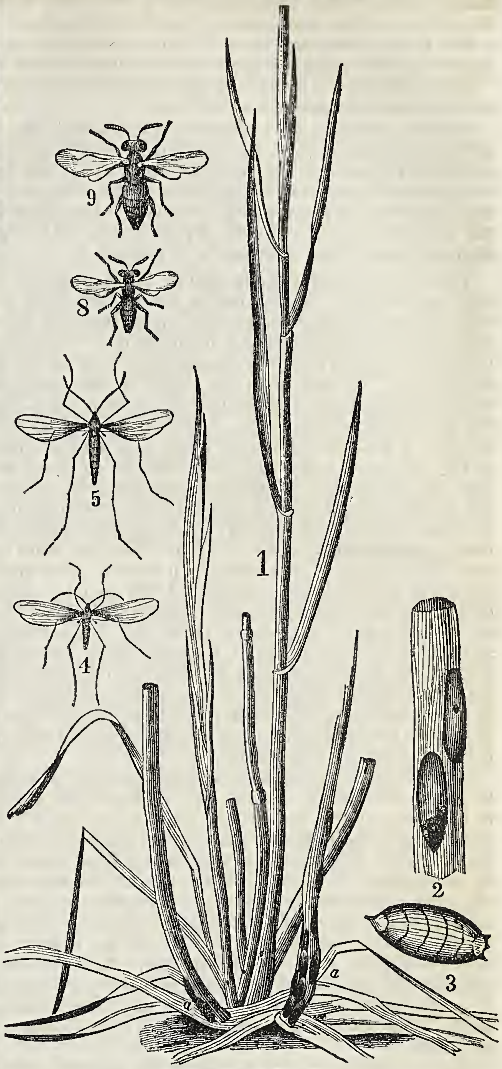
Some fields of wheat in this neighborhood have been much injured the present season by the yellow maggot, the larvæ of the wheat midge, *(Cecidomyia tritica,)* sometimes improperly called the weevil. The parent of this maggot is a small fly, less in size than the common musketoe, which deposits eggs between the scales of the chaff about the time the wheat is in blossom. The eggs are generally, but not always, deposited next the kernel, and the larvæ subsists on the juices which would otherwise nourish the grain. The consequence is, the kernel is more or less shriveled, according to the number of insects which infest the head. We have seen as many as half a dozen maggots around a single kernel, and the whole number in the head could not have been less than fifty, leaving not one sound, plump grain. It is sometimes said that this insect eats into the kernel; but we think this is a mistake—we have seen no instances of the kind—the worm is a simple maggot, not at all calculated for gnawing or boring.

This insect was first noticed in this country about the year 1831 or '32, though it had been known in Europe many years before. In those parts of this country where it was at first most abundant, we believe it has been for a few years past diminishing, We are informed that this is the case in Vermont, New-Hampshire and Maine. It seems to have been, in its first appearance, most destructive to spring wheat, but lately has attacked the winter wheat. No successful remedy has yet been suggested against its attacks. Some have advised the suspension of wheat culture for a few years in the infected districts. Perhaps this would be the best course, as the enemy would thus be starved out and annihilated. It has been remarked that in spring wheat, the early sown is generally most affected, from the circumstance of its coming into bloom about the time the fly is ready to deposit its eggs. Hence where spring wheat is grown, the plan of sowing *late* has been followed with advantage. That sown the latter part of May or first of June, has generally escaped this fly, but it is very liable to rust when sown so late.

In regard to winter wheat, the *earliest* sown is generally most exempt from attack—it gets past bloom and out of the way before the fly is ready to deposit its eggs. Mr. Thomas Hillhouse, an extensive farmer of this neighborhood, informs us that the portion of his wheat which was sown the first week in September is saved, while all which was sown after the 25th of that month, is nearly lost. Mr. Hillhouse thinks, that in a season like the present, the wheat must be sufficiently early to pass out of the "milk" before the 20th of June, to be safe from this insect.

Some of the worms pass into the pupa or chrysalis state, in the head of the wheat, and are winnowed out with the chaff, but it is probable the greater number undergo transformation in the ground; for this reason it would be bad policy to sow wheat on the same ground two years in succession. Kollar says there is a parasitic insect allied to the family of Ichneumons, which preys on the midge, and seems designed by nature to keep it within proper bounds. We have not seen this parasite, and do not know that it has been found in this country.

Fig. 76, at the head of this article, copied from Kollar, shows the wheat midge in different stages, both of the natural size and magnified. One section of the cut shows several of the larvæ within the chaff which encloses the wheat kernel.



Explanation of Fig. 77.

1—Wheat stalk with the larvæ of the Hessian fly deposited—three of the stalks punctured by the Ichneumon, *Ceraphron*—natural size, 3-20ths of an inch.—*a. a.* larvæ and pupa.
2—Section of the wheat stalk, with the larvæ magnified.
3—Larvæ advanced to the pupa state, magnified.
4, 5—Male and female Hessian fly, *Cecidomyia destructor*, magnified.
8, 9—Male and female Ichneumon, *Ceraphron destructor*, mafinified.

The Hessian Fly, *(Cecidomyia destructor,)* fig. 77. This fly has been known in this country for the last sixty years, and is probably the cause of more injury to the farmer, taking the whole country together, than any other insect. The parent fly resembles the *C. tritici*, just described, though their habits are widely different—the one depositing its eggs in the head of the grain, and the other near the root of the young plant. The infected plants may be readily known while small, by their dull lead color. Soon after the wheat appears above the ground, the Hessian fly deposits its eggs on the upper or inner side of the leaf near the stem, usually above the first or second joint. The eggs are very small, and can scarcely be discerned by the naked eye. In the course of four or five days, if the weather is favorable, the larvæ, which are of a reddish white color, make their appearance, and work their way into the sheath formed by the leaf around the stem. They remain in the larvæ state a longer or shorter time, according to the state of the weather. They do not change their habitation to pass into the pupa state, but go through their transformation in the place where the larvæ has been nourished. The pupa is enveloped in a dark brown case, and from a little resemblance to a flax-seed, this stage of the insect has been called the "flax-seed state." As soon as the fly comes out, it prepares for another generation and dies.

In the more southern portions of the country, the fly often attacks the early sown wheat in the fall, and a generation is sometimes produced before winter. The larvæ produced in the fall, are supposed to be uninjured by frost, and that they are brought forward to maturity by the warmth of spring. In the fly state, it is said a very slight degree of frost will destroy the insect.

Thus far, the best remedy against the Hessian fly, has been late sowing. By this means, the farmer avoids raising a crop of insects in the fall, to be ready to go on with their work of destruction in the spring. The injury occasioned by the fly, is most severe on poor ånd indifferent land. On rich soils, the injury is much less; the vigor of the roots continuing to push up new stalks, after the fly has stopped its work. Where the fly is known to prevail, it is advisable to sow wheat only on good land, and by no means to sow the same land twice in succession. A top-dressing of ashes, or any substance calculated to give a quick growth, would be a great advantage to wheat attacked by the fly. Burning the stubble has been recommended. Some kinds of wheat are more exempt from injury by this insect than others. The Mediterranean wheat has been considered "fly-proof," and has on this account been considerably cultivated in some parts of Pennsylvania, Maryland, Ohio, &c. Its security against the fly is said to be owing to the lower part of the leaf, or the sheath, adhering so closely to the stem that the larvæ cannot work its way in. In some cases it may be an object to sow this variety of wheat, though from its thick skin and dark color, it is not considered so valuable for flour as some other kinds.

Many years ago there was much controversy in regard to the economy of the Hessian fly, but the matter seemed to have been pretty well settled until the publication of Miss Margaretta H. Morris's communications on this subject in 1840. She contended that the egg from which the fly is produced, is deposited in the kernel, and as a security against the ravages of the insect, recommended procuring seed wheat from uninfected districts. This has been tried in repeated instances, but did not prevent the crop from being destroyed by the fly. Miss Morris is undoubtedly mistaken in her notions of the habits of the fly. The larvæ of which she speaks, as having been seen in the kernels of wheat, must have been that of some other insect.

The Hessian fly is assailed by several parasitic insects, the chief of which is the *Eurytoma destructor*, (*Ceraphron destructor* of Say.) "This," says Dr. Harris, "has often been mistaken for the Hessian fly, from being seen in wheat fields, in vast numbers, and from its being found to come out of the dried larvæ skin of that fly. In the month of June, when the maggot of the Hessian fly has taken the form of a flax-seed, the *Eurytomia* pierces it, through the sheath of the leaf, and lays an egg in the minute hole thus made. From this egg is hatched a little maggot which devours the pupa of the Hessian fly, and then changes to a chrysalis within the shell of the latter, through which it finally eats its way, after being transformed to a fly. This last change takes place both in the autumn and in the following spring. Some of the females of this, or of a closely allied species of *Eurytoma*, come forth from the shells of the Hessian fly, without wings, or with only very short and imperfect wings, in which form they somewhat resemble minute ants. Two more parasites, which Mr. Herrick has not yet described, also destroy the Hessian fly, while the latter is in the pupa or flax-seed state. Mr. Herrick says, that the egg-parasite of the Hessian fly is a species of *Platygaster*, that it is very abundant in the autumn, when it lays its own eggs, four or five together, in a single egg of the Hessian fly. This, it appears, does not prevent the latter from hatching, but the maggot of the Hessian fly is unable to go through its transformation, and dies after taking the flax-seed form. Meanwhile its intestine foes are hatched, come to their growth, spin themselves little brownish cocoons within the skin of their victim, and in due time are changed to winged insects, and eat their way out. Such are some of the natural means, provided by a benevolent providence, to check the ravages of the destructive Hessian fly. If we are humiliated by the reflection that the Author of the universe should have made even small and feeble insects the instruments of His power, and that He should occasionally permit them to become the scourges of our race, ought we not to admire His wisdom in the formation of the still more humble agents that are appointed to arrest the work of destruction."

THE DARK AGES.

The learned of the present day talk most complacently of the dark ages, those times when the great mass of mankind was not only ignorant, but contented with their ignorance, and looked with most suspicious glances on any one who dared to think or act a little in advance of the multitude. The cause of this is easily explained. Knowledge in an individual, is a constant reproof to those who have it not; and always produces in them, one of two effects, a desire for similar acquisitions, or an intense hatred of the possessor. We are accustomed to speak as though these dark ages had passed; but the following from the Farmer's Cabinet will show that so far as agriculture is concerned, there are places where the dark shadows are still lingering. We hope for the honor of our country, such places are not numerous. The extract is from the letter of a gentleman, who was endeavoring, in connection with his ordinary business, to obtain a few subscribers for that valuable paper.

"I have lately taken a ride of twelve miles from —— and returned by a different road. I saw but one building that could be construed into an apology for a barn. 'How do you manage without barns,' said I to one of the best farmers I met with. 'Oh,' said he, 'we have no use for barns, we have nothing to put in them.' 'How do thresh your wheat?' I inquired: 'We do not make any wheat.' 'Your rye then?' 'We do not make any rye.' 'What do you do with your hay?' 'Neither do we make any hay,' was his reply. 'What do you give your horses during the winter?' 'The tops and blades of the corn.' 'And how are your cows provided for?' 'We let them take their chance in the fields among the stalks; they make out to live till spring.' The same farmer told me he had not manured an acre of land, nor a hill of corn for nine years! 'And what,' I asked, 'is an average crop of corn?' 'A barrel to the thousand hills.' 'And how many hills do you reckon to the acre?' 'Two thousand.' 'And how many bushels to the barrel?' 'Five.' 'Then your crop of corn is ten bushels to the acre.' 'Yes, we are satisfied with that, and half of us do not get that much.' 'Have you marl here,' I inquired. 'Yes, we have plenty of it three or four feet below the surface, but it is too much trouble to dig it.' I mentioned your Poudrette—'O,' said he 'a dollar and fifty cents a barrel, would make it cost too much.' Seeing a little girl busily engaged in shaking a quart bottle, I asked what she had in it? She answered *cream*, and that she was making butter! I conclude, therefore, that a farmer who has a horse and cart—a wooden plow, rope traces, and a corn-husk collar, and a quart bottle to churn his butter in, feels himself amply prepared for conducting a farm in these *diggins*, without wasting a dollar a year in paying for the Farmer's Cabinet!" "A most legitimate conclusion truly," adds the Editor.

It is astonishing what an obstinate adherence to antiquated and ruinous opinions may occasionally be found among farmers. We know a man who resided on a fine farm some fourteen or fifteen years, and who glories that he has never sown a bushel of plaster and scarcely a bushel of clover seed upon it during that time. The practice of manuring he discountenanced wholly; and as a natural consequence, his farm originally of the best quality, had become so reduced, that he was obliged to dispose of it to satisfy his creditors. Such men should have lived centuries ago, or perhaps, so far as the march of improvement is concerned, they might find a suitable residence in the district described by the correspondent of the Cabinet.

Foreign Correspondence.

MR. NORTON'S LETTERS—No. II.

Laboratory of the Ag. Chem. Association,
Edinburgh, July 1, 1844.

Messrs. Editors—I regret that my excursions during the last two or three weeks, though most interesting in other points of view, have not generally been through a highly cultivated part of the country, and have not therefore given me many new facts of importance in Agriculture. While in Yorkshire, however, for a few days, in company with Prof. Johnston, I visited the farm of Mr. Bates, so well known as a successful breeder of Short Horns. As you have undoubtedly had descriptions of his stock from those far more competent to judge of their merits than myself, I will only say that they seemed to me more nearly perfect in many respects, than any animals I have ever seen. I was especially struck with the knowledge which Mr. Bates evidently possesses of the subject to which he has devoted much of his life. Every American agriculturist who visits England ought to see this stock, as affording a notable example of the effect of care and judgment in breeding. From Mr. Bates' courteous manner and hospitable attentions to our party, it would seem safe to ensure a kind reception of any gentleman who should visit Kirkleavington.

Since coming to Edinburgh I have received several numbers of the Cultivator, and in those for May and June I noticed paragraphs founded on statements in English papers, respecting Guano from the islands of the North Sea, intimating that they were expected in a great degree to supercede those from Africa and Peru, and also that like deposites might be found on Newfoundland and other islands of the North American coast. Prof. Johnston has kindly furnished me with information on this point, which may be interesting and useful to your readers. I enclose the results of analyses of two specimens sent from the Hebrides as samples of these guanos, and by way of contrast, those of some of the best from Africa and South America.

Analyses of the Hebrides Guanos.

	No. 1.	No. 2.
Organic matter and water, with a slight trace of ammonia, - - - - - - - - - - - - - - - - -	70.44	75.51
Common salt, sulphate of soda, &c., . - - - - - - -	3 57	3.50
Phosphate of lime, of alumina and of iron, - - - - -	1.53	2,43
Carbonate of lime, magnesia, &c., - - - - - - - -	1.47	1.13
Siliceous matter, (pieces of quartz, and a little mica,) -	22.99	17.43
	100.	100.

A momentary inspection will satisfy us that no extraordinary fertilizing properties are possessed by these deposits, and the analysis also proves, not only that the rains and storms have carried away the ammoniacal and other soluble salts if ever there, but that the phosphates never were present in large quantity, for they being insoluble would still have remained. It is thus evident that these so called guanos, consist chiefly of vegetable remains and quartz, and contain a very small proportion of the dung of birds, even in the Shetland caves, whence some specimens have been brought. That they are not to be compared to the true guanos as to fertilizing properties, the following analyses will show. The ammonia separately, is not determined in any of these. It usually amounts to from 4 to 12 per cent.

Analyses of two Guanos, both African.

	No. 1.	No. 2.
Water, - - - - - - - - - - - - - - - - - -	17.41	16.79
Organic matter and ammoniacal salts, - - - - . . - -	55.33	52.83
Common salt and sulphate of soda, - - - - - - - -	4.92	4.90
Phosphate of lime and a little phosphate of magnesia, -	18,23	22.85
Carbonate of lime, magnesia, &c., - - - - - - - -	3-54	1 50
Siliceous matter, - - - - - - - - - - - - - - - -	0.57	1.13
	100.	100.

Analysis of two Guanos; No. 1 from the Island of Ichaboe on the African coast, and the other from Peru.

	No. 1.	No. 2.
Water and volatile ammonia, - - - - - - - - - -	15.27	3.14
Organic matter and ammoniacal salts, - - - - - - -	51.44	63.52
Salts soluble in water, consisting of sulphate and muriate of soda, - - - - - - - - - - - - - - - -	5 50	5.02
Insoluble siliceous matter, - - - - - - - - - - - -	0 57	1.16
Phosphate of lime and a little phosphate of magnesia,	21.11	22.20
Carbonates of lime, magnesia, &c., - - - - -	6.11	4.96
	100.	100.

The Peruvian guano, No. 2, is remarkable for the small quantity of water present, and both of the two last for the very large proportion of phosphates. Is it wonderful that these manures, compounded almost entirely of substances so beneficial and essential to all crops, should be sought, as is the case in this country, with great avidity. The supply does not equal the demand. A cargo of 1000 tons which arrived at Liverpool a short time since, sold at once, at from ten to ten and a half pounds per ton. Such as the dry Peruvian, No. 2, would readily bring thirteen pounds, or sixty-two and a half dollars, and this too while nearly four hundred vessels are engaged in, or fitting out for this business. The above analyses were selected from about seventy which have been made of different specimens, during the past year, in this Laboratory. From the great demand, it follows, of course, that adulteration is practiced, and this too most extensively. One person purchased some, which was found to contain about 70 per cent of chalk. With the addition of a little ammonia to give the smell, and of some finely ground spent tan-bark to give the color, it is quite easy to imitate the appearance of guano sufficiently well to deceive the unpracticed.

It is hoped that this revelation will not open a new branch of speculation to any of my ingenious brother Yankees, for our reputation in that way is quite high enough here already. Yours very truly,

John P. Norton.

By the arrival of the Acadia steamer at Boston on the 18th ult., we are furnished with our regular files of the Mark-Lane Express, New Farmer's Journal, Farmer's Herald, Gardner's Chronicle and Agricultural Gazette, to the 3d of July—also the Farmer's Magazine, London, and the Journal of Agriculture, Edinburgh, for July. By this arrival, we also received for the first time, the Irish Farmer's Gazette; the Ayrshire Agriculturist, and the Doncaster, Nottingham and Lincoln Gazette—valuable papers, which we shall be glad to receive regularly hereafter.

The weather, crops, &c.—In England, the weather had continued generally dry, up to the 25th of June, about which period copious showers occurred in many places. Wheat is generally good, but *spring* grains and grass have suffered much from drouth, and will give but a poor yield. The scarcity of grass has occasioned the markets to be crowded with *store* stock, the prices of which range very low. Some anxiety is still manifested among the English farmers, in regard to the increased importation of foreign live-stock. Large exports of the finest English animals have been made, showing that the continental graziers and flock-masters are using every effort to improve their stock in order to compete successfully with those of Great Britain.

American beef, pork, and cheese, was selling in the English ports in considerable quantities at fair prices.

In Scotland and Ireland, there has not been so great a deficiency of rain. The wheat is generally good, and other crops it is hoped will be at least middling.

The Great Show of the Royal Ag. Society of England, is to be held at Southampton, July 23, 24, 25, 26—that of the Highland Society at Glasgow, Aug. 7, 8, 9—that of the Irish Society, at Dublin, Aug. 14, 15. At the Irish Exhibition, a "challenge cup," of the value of 100 sovereigns (near $500,) given by P. Purcell, Esq. is to be awarded for the best animal in the neat cattle classes. The premiums to be awarded by the Highland Society, amount to $7,500, being the largest list ever offered.

Food of Laborers in Harvest.—A writer on the comparative merits of different modes of reaping, in the last number of the Transactions of the Highland Agricultural Society, says, "I deprecate the practice of overtasking young women in gathering heavy crops, as cruel oppression. Half the number of those hired to gather, not being habituated to active employment, it is unreasonable to expect them to do as much at an occupation, perhaps the most active that falls to the lot of women in field labor, as those inured to it. To alleviate this hardship, for the first week of harvest, especially if the weather be warm, my plan is to make the reapers rest twenty minutes whenever I perceive it requisite, and I find it a plan both humane and profitable." In a note, the writer says—"It deserves to be noted that the food of the reapers, whose work has been stated above, consisted of oatmeal porridge and milk for breakfast and supper, and potatoes for dinner, with abundance of oat-cakes and milk at every meal. All whom I know that have harvested in the south, [England, we presume,] assure me that they cannot do so much work there, because the diet consists of porridge and milk, with bread at dinner only."

What would women in this country say to laboring in the harvest-field, even under the "*humane* plan" of this writer? and what would be thought of the farmer in this country who should feed his harvest-hands on nothing but "porridge and milk," potatoes, and oat-cakes? Let us be thankful that women are not here made "hewers of wood and drawers of water," and that our laborers are supplied with those articles of animal food which contain the most substantial elements of nutrition and strength.

Lime.—In "Sketches of East Lothian Husbandry," it is said lime was formerly used extensively, it having been found of the greatest efficacy on strong clayey land. It is now only employed to a very limited extent, more than half the lime-kilns at present lying idle. This, it is said, arises from the circumstance that land once thoroughly limed, derives comparatively little advantage from, and may be injured by a further application of this substance for a considerable period after the first dose.

Cultivation of Turneps.—The editor of the London Gardener's Chronicle, speaking of the fertilizing tendency of the turnep crop, says—"We have seen fields so cultivated that a handful of earth could not be taken up in them which was not full of these silken-looking fibres (roots); and so vigorous was the growth of the crop in that part of the field, that on digging a pit, these fibres, (recognized by their appearance and taste,) were found to have penetrated to the depth of *five feet!*"

Wheat in Drills.—From the same authority as that above quoted, we learn that 100 acres of wheat together, had produced by the drill-mode of sowing, according to the estimation of the best judges, five quarters (40 bushels) per acre.

Adulteration of Manures.—Great fraud is practised in England by the adulteration of some kinds of manures. By an article on this subject in the Gardener's Chronicle, it appears that a substance which had been sold as *bone ash*, was found on analysis to contain *eighty-five per cent* of carbonate of lime, or chalk. In this case the farmer had been paying 10*l.* for every thirty shillings worth of manure. In other cases the bones had been increased in weight by soaking them in water—making, in every ton of bones, about seven hundred weight of water. Substances sold as *guano*, have been found to contain seventy-five per cent of brick-dust—and in other instances a large proportion of saw-dust, clay, or ground bark. John Bull might offset this against Brother Jonathan's wooden pumpkin-seeds and horn flints.

Valuable Cow.—Mr. James Geach, of Penvounder, in the parish of Sithney, has a cow that, with ordinary keep, produced last year 350 lbs. of butter. She calved in March last, and there is every probability that she will produce as much this year.

Good Farming.—A correspondent of the Agricultural Gazette, says—"Good productive farming does not depend upon these things, so much as upon draining, deep and frequent plowing, clearing the land from all other plants but those you desire to grow, early seeding, and last, but not least, preserving every decayed vegetable matter that can be found, either on or off the farm, and mixing it judiciously with the excrement of a well-selected stock of animals adapted to the character of the soil, preserving the mixtures in properly constructed yards and tanks."

Composts.—The same correspondent recommends, from his own experience, a compost made as follows, the quantity mentioned being sufficient for one acre:—"Put 8 bushels of crushed bones into a dry shed, and add from time to time, as they come to hand from the farm-house, or as they can be procured elsewhere, 24 bushels of ashes (wood are the best,) and empty upon the mass, from day to day, the contents of the chamber utensils; to be stirred and mixed occasionally. At least 6 or 8 acres may be thus manured at a farm consisting of as many persons."

Turenp-Fly.—I have found that half an ounce of sulphur mixed with a pound of turnep-seed, prevents the ravages of the fly. The experiment is easy, and has not been known in any case to fail. I have used this plan with success for several years, and have not lost a single turnep. It has been tried on a small scale in my immediate neighborhood, and in no case has it failed to protect the young turnep from the fly.—*Ag. Gazette.*

Manuring with Loam and Clay in a roasted state.—Professor Chs. Sprengel recommends burning or roasting clay for manure. After alluding to the idea that is by some entertained that the use of burnt clay would render the use of dung superfluous, he says:—"Although this assertion is not borne out by fact, still it cannot be doubted that by roasted clay or loam one substance is conveyed to the soil, which is a most important ingredient of dung, viz. nitrogen. Because, if a loam or clay is roasted, which contain already protoxide of iron or manganese, or in which these substances are formed during burning from the oxide of iron or manganese, ammonia will be formed the moment that water and the nitrogen of the atmospheric air have access, as the protoxides of iron and manganese decompose the water and combine with its oxygen into an oxide, by which the hydrogen will be set free, which will then unite with the nitrogen of the air into ammonia, the latter being either condensed in the pores of the clay, or received by the moisture which is at hand. That this process really takes place, I have found by many experiments, on which account I recommend that sort of clay or loam for roasting which are rich in iron or manganese. A calculation made by me shows, that if the clay or loam used for the manuring of one acre contains 1000 lbs. protoxide of iron or manganese, there is a possibility that 100 lbs. of ammonia will be formed, which (as we know already) will produce a great effect."

Lucerne.—In no former period have I experienced the value of lucerne, as during the present protracted drouth; I have now nearly finished my first crop, which I have been cutting green for horses and cows, much of which measures in height 36 inches, and is very thick on the ground; my second crop is from 24 to 26 inches high, and equally as thick a plant as the first. I am now about cutting this for hay, and I think I have more weight per acre of my second crop than is grown this season on four or five acres (first crop) of the general average of pasture grounds now mowing. It does not appear to be in the least affected by the severe drouth, which I attribute to the very great depth the roots run down; for I have heard (and which I doubt not) instances of lucerne roots being found from 10 to 14 feet below the surface. I would again urge all, whether farmers or not, to try and grow lucerne, for of all summer food for horses this is the very best; I am inclined to say likewise nothing can be better food for cows, for my own have lived entirely upon it the last three weeks, my feeding pasture being quite burned up for want of rain, and have produced a full quantity of butter.—*Mark Lane Express.*

REFUSE OF THE TANNERRY.

"D. X." makes the following inquiries:—"In what manner can the refuse of a tannery, as hair, bits of skin and pieces of flesh that are taken from the hide, best be converted into a manure, to be applied to lands fitted for wheat or corn?

Would such refuse mixed with barn yard manure, ashes and charcoal, applied to land which is to be sown with wheat have a good effect?"

The substances alluded to, will undergo sufficient decomposition to render them good manure if laid in a pile during the summer. Ashes would, we should think, be useful in preparing the heap.

THE STRAWBERRY.

The excellence and value of this fruit are so well known as to need no recommendation. This is a good season of the year for transplanting. Mr. Kenrick's description of the mode of cultivation, as given in the "New American Orchardist," is as follows:

"For the reception of the plants, the grounds may be trenched twenty inches deep, and a quantity of half-rotted manure incorporated to half this depth. For economy, it is also recommended in the final transplanting, to set the plants in beds of four rows each; the rows running in a longitudinal direction; the distance between the beds varying from two to two and a half feet, according to the roots to be planted, as some varieties require much more space than others. During the first year, the runners to be carefully destroyed before they have taken root. Around such as show fruit, grass or straw is placed; (Keen recommends the same, for the plant derives its name from this circumstance.) This protects alike the soil from washing rains, from a scorching sun, and the consequent evaporation of its moisture; it protects the fruit from becoming soiled. But as soon as the fruit is gathered, this covering is to be removed, and the soil kept clear of weeds by the hoe till autumn. In autumn, all the spaces, including the alleys, to be dug carefully over with a pronged fork, so as not to injure their roots. Both Keen and Mr. Knight, however, direct manure to be applied before this last operation is commenced, and Mr. Knight, has particularly cautioned against digging so deep as to disturb the roots, as it weakens the force of the plants. The second summer Lindley states that the plant will bear their best crop and finest fruit; the beds and outside of the alleys should be covered with mown grass, or with straw, three or four inches thick; by this method, he states he has found the fruit not only more abundant, but of finer quality."

"In the vicinity of Boston the following mode is often adopted:—The vines are usually transplanted in August. The rows are formed from eighteen inches to two feet asunder. The runners, during the first year, are destroyed. In the second year they are suffered to grow and fill the interval, and in the autumn of that year, the whole of the old rows are turned under with the spade, and the rows are thus shifted to the middle of the space. The same process is repeated every second year. Another mode which may be recommended generally, is to plant the strawberries in rows thirty inches asunder and nine inches distant in the row, and suffer the vines to extend to the width of eighteen inches, leaving twelve inches for an alley; allow eighteen inches width to the alleys, and three feet asunder to the rows; and to form new beds every three years, or never suffer the bed to exist over four years; and to plant out in August in preference to Spring." Some good horticulturists, however, prefer planting in spring.

Much has been said about the sex and character of the strawberry. It is defined by botanists as belonging to the order of plants, (*Icosandria Polyginia,*) which have the male and female organs in the same flower,—yet some have contended that it is *diœcious* in its character—that is producing the male and female organs on different plants. The theory advocated by Mr. Longworth, of Cincinnati, and which is probably correct, is, that every blossom contains both the male and female organs in a greater or less degree of perfection; but that in some varieties the different organs are not developed in the due proportion to insure fructification. In some kinds, the female organs, (pistils) are defective, in others, the male, (stamens.) Those varieties in which the *female* organs are disproportionably developed, though when left to themselves they are generally sterile, will often produce fruit of extraordinary size when brought in contact with plants in which the *male* organs are largely developed; but there are some varieties in which the female organs are so defective, and the male organs are so much predominant, that they cannot be fructified, and are, therefore, under all circumstances, totally barren.

A little experience will soon enable any one to distinguish the male and female organs of the strawberry—or the staminate and pistilate flowers. Mr. Longworth, in a communication for the Western Farmer and Gardener, illustrates this part of the subject by the following anecdote. He says he was trying in vain so to express himself as to enable a person not a botanist, to distinguish the male and female plants by the blossom, when a young son of his German vine-dresser, conveyed the idea in a few words. "Why," said he to the person, "you not understand! The husband he always have de *beard,* de frow she have none." Mr. Longworth adds, "a quire of paper could not give a more definite description. In the male plant, the face of the flower is covered by a long yellow beard, that almost hides it. The female has the beard, but so closely *shaven* as not to be perceptible to the naked eye. The male blossom is generally also, of double size."

Mr. Longworth recommends planting the pistilate and staminate varieties in separate beds, two and a half feet apart, "every fifth bed being a male." If they are planted in the same beds, the male, or staminate plants, soon over-run the others, and no fruit is obtained.

As to varieties, Mr. Breck of the N. E. Farmer, who has had much experience in the cultivation of this fruit, says—"after having tried a multitude of sorts, we should recommend for common cultivation, *Hovey's Seedling,* as the very best for the general crop—*Early Virginia* for early use, and the *English Wood* for late. Many new and highly extolled varieties have disappointed the expectations of the horticulturist."

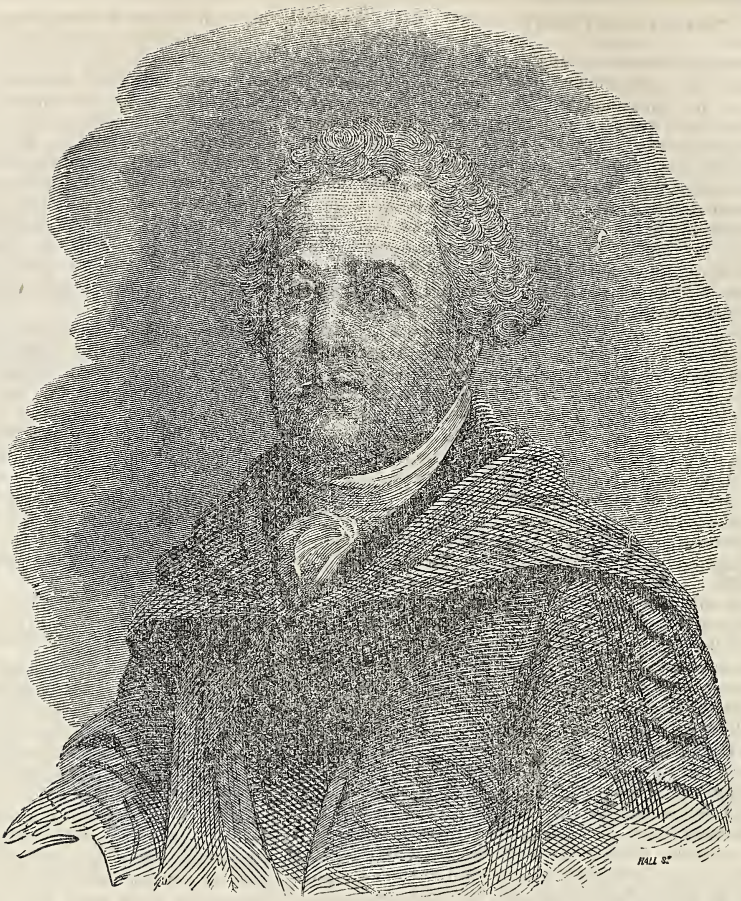
FARMING ON THE AROOSTOOK.

Now that the North-eastern boundary is finally settled, the best portions of the former "disputed territory" are becoming rapidly settled. From all we can learn, we have little doubt that our neighbors of New-Hampshire and Maine, would find the inducements for emigrating to the Aroostook Valley, equal in many respects to those of any other section. A correspondent of ours, who has purchased and is now improving a tract of land there, with a view to a residence, writes as follows: "The soil lies on a lime-stone rock, and is from one foot to two feet deep, of different colors, such as light yellow, chocolate color, light gray or black mold, like old barn-yard manure. These four varieties are often met with in the distance of two rods, and the settlers like that land best which consists of these different kinds, so located as to mix together in cultivating. The crops, when I was at the Aroostook last August, (1843) were superior in appearance to any thing I had ever seen or *conceived* of. The oats were up to a man's chin—the wheat about as high, with heads seldom less than four and sometimes *nine inches* long—and the barley from four to four and a half feet high. The potatoes were very well advanced, and of that peculiar richness and mealiness which no potatoes have, not raised in or near the 'Provinces.'"

Indian corn is not cultivated very extensively on the Aroostook; still there is some raised there, and our friend writes that he is informed by a man who is operating there this season, that "the corn there was knee high the first of July, and looked as it used to in Kennebec when growing on a *dung-heap.*"

Cedar Shingles.—The Springfield Gazette says—"Mr. John Bliss of Wilbraham left at our office, last week, some shingles that were taken from the roof of his barn, on the 9th inst., where they had remained 104 years, having been put on by his grand-father, Ensign Abel Bliss, in May 1740. The shingles were of 5-8 thickness, made of cedar which grew on the farm of the then owner, and during the time stated had covered the west half of the north roof, the other part having in that time been *twice* covered with pine shingles. They were 20 to 24 inches long, and six inches exposed to the weather. The roof boards were in suitable order for re-shingling."

Cattle Shows this Season.—New-York State, at Poughkeepsie, Sept. 18 and 19.——Hampden Co. (Mass.) at Springfield, Oct. 16, 17.——Coshocton Co. (O.) Oct. 25.——Newberry (S. C.) Sept. 25.——Philadelphia, on the Germantown turnpike, 3 miles from the city, Oct. 16, 17.——Kings Co. (N. Scotia) at Kentville, Sept. 26.



THE LATE DR. SAMUEL L. MITCHILL,

Of the city of New-York, and his labors in aid of Agriculture.

Number I.

Mr. Luther Tucker—Your late and lamented associate Willis Gaylord, commenced a notice (Cultivator vol. 10th, p. 170) of the essays contained in the printed volume of the "Transactions of the first New-York Agricultural Society," and of the men who organized it. Among other remarks he observes that "the leading spirits of this association were men of powerful minds, far-reaching in their views, *and in their practice evidently in advance of their age.*" (Anno. Dom. 1791.)

In my early days I had a taste and inclination to engage in agriculture; but circumstances diverted me into another course, and kept me so for many years, until declining health impelled me to rural pursuits, and the fulfilment of the wishes of my earlier life. It was then I read and studied the old agricultural society's Transactions, and admired the writings of Livingston, L'Hommedieu, DeWitt, De La Bigarre, and others. Associated with these worthy men was the learned Samuel L. Mitchill, M. D., with whom the writer was personally acquainted, and whose labors in aid of agriculture, and in agricultural chemistry, it may be interesting at the present day to notice.

The old Agricultural Society was organized in 1791, and the first address was delivered by Dr. Mitchill in 1792, before the members of the society and the state legislature then holding their sittings in the city of New-York. It was incorporated in 1793, and the first volume of Transactions was published at Albany in 1801. It thus appears that it required ten years before materials could be collected sufficient to form a volume. When the society was organized, it was shortly after the revolutionary war, when agriculture was in a depressed condition, when the settled parts of the state were comparatively limited, and when the country had not recovered from the ravages of war, particularly the southern part which had been in possession of the enemy. The materials however which form the first volume of the Transactions were written by men who loved their country, true patriots, men who were both practical and scientic, some of whose writings may be read with advantage, even in these days of increased population, extended agriculture, and scientific farming.

We find by examining the volume of Transactions that the society was not purely agricultural. The title runs thus—"*Transactions of the Society for the promotion of Agriculture, Arts and Manufactures, instituted in the State of New-York.*" Thus soon after the war of independence, our wise men in the agricultural community, saw the necessity of encouraging the mechanic arts and manufactures, as well as agriculture, as it had been the policy of Great Britain not to let "even a hob nail" be made in the colonies. This policy in relation to these United States was continued by the British after the war. And it is in the recollection of many, as well as of the writer, when English merchants deluged the country with their manufactures of wool, and cotton, and iron, and leather, and many other articles which our own citizens can now manufacture as well as they.

Of the five addresses before the the society, as published in their volume of Transactions, Dr. Mitchill delivered two, viz: one in 1792, and one in 1798. In the winter of 1791–2, the legislature met in the old City Hall in the city of New-York, and at that session he was a member of assembly from the county of Queens, and though young, his agricultural, his scientific and general knowledge, led him to associate with men of learning, and he was very active in the organization of the first State Agricultural Society, of which he was for several years the corresponding secretary. He was called upon to deliver the inaugural address, at the organization of the society in 1791, and we find it full of scientific and practical information. Indeed it was so well received by those who heard it, (among whom was his preceptor Dr. Samuel Bard,) that it caused him to be appointed Professor of *Chemistry and Agriculture*, in Columbia college, New-York, of which Dr. Bard was a trustee. Before proceeding to examine his addresses and agricultural essays we will give a sketch of his life.

Dr. Samuel L. Mitchill was an extraordinary man. He was the maker of his own fortune and reputation. He began the world with impaired health, no money, and few or no influential friends. When he returned from Europe in 1787, his fortune consisted in his medical education, but he was unable to commence the practice of that learned profession in consequence of (hemoptysis) bleeding from the lungs, which occurred in London a short time previous to his return to his native country. He accordingly retired to the family residence on Cow-neck, in the township of North Hempsted, Queens county, and state of New-York, where he joined his father and brethren in agricultural pursuits. There he put theory into practice, and as far as his health and strength would permit, united with them in renovating the farm, which had been impaired by the British troops who had encamped upon it, and committed depredations without restraint.

This farm is still in possession of the family, and is owned by Judge Mitchill, the Doctor's only surviving brother, who has been long known as an able practical farmer, and who has cultivated it from his youth. It was devised to the family by Dr. Samuel Latham, (the maternal uncle of the Judge) who died in 1781. The British obtained possession of Long Island in 1776, and held it in military subjection the entire period of the revolutionary war, and a part of the time their troops occupied Dr. Latham's farm. The Hessian soldiers under Col. Wormzer encamped on it, and the adjoining one of Benjamin Akerly, both of whom were revolutionary whigs, and were obliged to entertain their enemies, who occupied their houses and lands, and destroyed their trees and fences. Other friends of the country suffered in the same manner, and were probably designated by the tories of those days, who took delight in seeing the British despoil the fair possessions of the advocates of the revolution and of civil liberty. It was on that farm that Dr. Mitchell, after the war, became a practical agriculturist, and hence we shall find in examining his writings in relation to husbandry, that they are not merely theoretical.

Previous to the completion of his medical studies at the celebrated school in the capital of Scotland, Dr. Mitchill wrote a letter to his father Robert Mitchill, on the industry of the Scotch, their employments and agricultural skill. This letter we have been permitted to read, and make the following extract, which will commend it to the perusal of every industrious farmer.

The letter is dated at

Edinburgh, June 1st, 1786.

"A spirit of industrious enterprise prevails much in this country at present; for in order to incite the people to industry and excellence, rewards are offered for almost everything. Premiums are distributed to those who embark in the *whale-fishery*, and to such as employ themselves in the *capture of herrings*, and to such *as spin the best and finest thread*, and to others who are *most expert in plowing land*, and even to musicians who can play most completely on the *Highland bag-pipe*. The good effects of such liberal offers are very manifest; for they promote ship building, employ carpenters and sailors, procure fish and oil, advance manufactures, *improve agriculture*, and reward labour. By such means, Scotland, notwithstanding its natural disadvantages, is advancing rapidly to improvement, and this is conspicuous as well in the advancement of arts and sciences, as in the refinement of manners among the inhabitants. Distinctions between people are here very great and striking, for they who have fortunes and estates live in elegance and splendor; they who have neither, dwell in dependence, poverty, filth, and apparent wretchedness; but in spite of all this, half an acre of land here answers a better purpose, and produces more than ten times as much as with you, because every inch of it is *manured* and cultivated to the best advantage. The Americans are in general bad farmers; they either are not industrious, or if they are diligent, they want contrivance and economy, to employ their labor and exertions to the best advantage. They seem not to know how to combine "*art with strength*," to unite "*contrivance with industry*," to associate "*labor with convenience*," or to blend "*convenience with elegance*.' These you have yet to learn."

In this letter, Mr. Editor, written by a young American in Scotland, fifty-eight years ago, we have some remarks which are applicable at the present time.

Staten Island, April 24, 1845. RICHMOND.

NUMBER II.

In our former communication it was stated that Dr. Mitchell delivered two addresses before the old Agricultural Society. It is now intended to notice them more particularly. The first was delivered before the Society and members of the Legislature in the old City Hall of the city of New-York, then situated at the corner of Wall and Nassau streets, on the 10th January 1792, soon after the organization of the Society.

After some prefaratory remarks and reference to the Idills of Theocritus, the Georgics of Virgil, among the ancients, and the pastoral essays of Gessner and Haller in later times among the Germans, and of Pope and Phillips in England, he comes down from the lofty flights of these fanciful writers to matters of fact, to the "dull pursuits of civil life," and he first points out those things for which we should be thankful:

"For among the numberless favors which Divine bounty has bestowed upon this fortunate land, that which in the first place claims our grateful acknowledgments, is the abundant harvest which rewards the industry of the farmer: since to a healthful climate and a fruitful soil, there is annually added the genial influence of a season that beautifies spring with blossoms, and loads autumn with fruit." p. 17.

Then he points out the condition of the land of this country, when first subjected to the plow:

"Hitherto, the American husbandman has cultivated a soil, enriched for ages by the yearly addition of a fresh stratum of mould. From the first existence of vegetation upon the dry land, decayed plants have continually furnished a supply of manure, which the winds and rain have liberally spread abroad. As the supply was annually greater than the consumption, the earth, unexhausted by its productions, increased in fertility. The thick layer of vegetable mould which covered the face of the earth was a store-house of food for plants, and this quantity was greatly increased by the conversion of wood into ashes by clearing. It is not wonderful, then, that for some years newly-cleared settlements should abound in produce, and require little more labor than that of plowing and reaping. During this period the provision is wasting, which for centuries had been accumulating. But the time will come, and indeed in many places *now is*, when the land, repeatedly wounded by the plowshare, and exhausted of its richness, shall be too weak of itself, to make plants grow with their former luxuriance. This may be called the era of systematic agriculture, when man, taking the earth from nature's hand, bare of manure, is so to manage and dispose it artificially, that it shall yield him first a subsistence, and then an overplus to grow wealthy upon. How far art may go in this species of improvement is yet unknown, as the *ultimatum of fertility* has never yet been reached." p. 20.

Proceeding in the perusal of the address we find that Dr. Mitchill then (1792) a young man, understood the nature of exhausted lands and the means of renovating them as well as we do at this day, (1844.)

"But how (says he) are fields to be artificially fertilized? By manure. This is the great hinge upon which the whole system of agriculture turns. In procuring this needful substance, we are first to imitate nature in collecting all the vegetable matter we can find, suffering nothing to be lost. As however, if a field, yielding grass for brutes, or grain for man, is principally exhausted of its produce by the creatures whom it supports, a very inconsiderable quantity remains for manure. What then is to be done? Must the land go on to be impoverished from year to year? No. The animal, the vegetable, and the mineral kingdom must be ransacked for something to aid the growth of plants. The ashes of wood and of peat, the muddy depositions of puddles and ponds, the unrespirable portion of our atmosphere, and some of the particles floating therein; the various earthy productions of marl, chalk, gypsum, clay and lime, and likewise the excrementitious matters of most animals, are found by experience when properly employed, to promote directly or indirectly the process of vegetation. When these things are added to the soil, they act in one of these ways. 1st. They are a pabulum plantarum, and materially contribute to the nutriment of plants; or, 2d, They are stimuli to plants, and by exciting them to action cause a greater absorption of food, a better assimilation of it, and consequently a more rapid and vigorous growth; or, 3dly, They so alter and dispose the earth in which plants are rooted, that the radicles shoot more easily and more extensively through it, or in other words it becomes a better filter for straining and applying nourishment to their inhaling and absorbing vessels." p. 23.

In this short extract, (Mr. Editor,) we have the principles contained in what are considered as discoveries and improvements of the present day. Very little notice and no application of them ever was made at the time they were promulgated. Well might your late deceased associate say of him and some of his co-laborers in agriculture, that in 1792 they were "evidently in advance of the age," as we shall hereafter be able to show in other particulars.

It was stated in our first number that manufactures were embraced in the plan of the "Old Agricultural Society." The address now under consideration speaks of these with due respect and discrimination:

"But I would not wish to be understood that the whole of our labor should be applied to agricultural pursuits, as if those were, as some argue, the only industry that is productive; for I think it may be clearly proved, that the capital and labor of this country, will be most advantageously employed, if a part of it is expended in manufactures; the best policy in this respect, being to carry on agriculture without neglecting manufactures, and at the same time so to manage manufactures, as that agriculture may be conducted with a due degree of spirit."

This first address before the old Agricultural Society treats of quicklime, plaster of Paris, and fish as manures, and recommends the preservation and even the cultivation of the sugar maple for the production of sugar: also the rearing of the yellow locust (Robinia pseudocacia) for its timber. Attention is called to the vine, the mulberry, the mangel-wurtzel, barley, hops, &c., as neglected articles of husbandry. Of animals, he recommended the introduction into the United States, the Bos bubalis or tamed Buffaloe of Europe, which Dr. Mitchell observes "has been long domesticated in Hungary and Transylvania." He also recommends mules and oxen in preference to horses for draught on a farm. He also spoke in the aforesaid address, of sheep, and the wheat insect, (Tipula tritici, more recently named Cecidomia destructor.) Of the latter he subsequently wrote an account which is in the transactions of the old Society. The address concludes by directing attention to injurious insects; for says the author, "We are almost entirely in the dark respecting the history of the insects injurious to our useful plants, and that man would be laudably and beneficially employed, who should collect what is knowable concerning the different moths, bugs, flies and worms, which infest our fields and gardens."

This labor, recommended nearly fifty years since, was neglected until it was undertaken by our late esteemed agricultural writer, Willis Gaylord, who commenced the work, (Trans. N. Y. State Ag. Soc. 1843, p. 127,) but was removed to his rest ere he completed the undertaking.

LYING.—The credit that is got by a lie, only lasts till the truth comes out.

SOILING CATTLE AND HORSES.

Soiling, or feeding animals during the summer season with green food, cut daily, and given to them in yards or stables, is nearly unknown in this country, and its advantages but little understood. This is owing chiefly to two causes. Land is comparatively cheap, and labor costly; and the saving of the former, and increase of the latter, by this practice, have prevented a fair trial of its merits.

If, however, experience shows that the nett profits of the farm are greatly increased, even though attended with greater temporary outlay, the practice ought to be more extensively adopted. The chief advantages of soiling are these:—The whole of the green food is consumed with less waste than by pasturing; it is not beaten under foot by cattle's hoofs while in a feeble state, but a full and luxuriant growth allowed before it is touched. The ground is not poached in wet weather; the cost of division fences is diminished; a great saving of manure is effected; and the advantages of rest and quietude secured to the animals. The chief objection is the amount of labor required in cutting the food, and in feeding and littering the animals. Hence it becomes a matter of importance to strike a balance, as nearly as the results of experiments will allow.

Loudon estimates the product of an acre, mown and fed green to cows, at triple the quantity obtained by pasturing; experiments reported by John Sinclair give the same results,—17 acres in one case, having supported 33 head of cattle more than four months, which had previously required 50 acres of pasture; and the same results were obtained by Josiah Quincy of Massachusetts. Other trials make the difference considerably less, but in such cases the pasture appears to have been suffered to acquire *a tall and heavy growth before the cattle were turned in, and thus the advantages of the practice just recommended were partially secured.*

Several limited experiments made by the writer, decidedly confirm the opinion that not far from three times the amount of product is obtained by soiling, over the common practice of feeding on short pasturage.

Many experiments have been performed in England, showing the increased rapidity with which cattle thrive when fed by soiling. In one case, two cows were fed four and a half months, one being soiled, and the other pastured. The former gained 16 stone, the latter 9 stone. In another experiment, 48 cattle were fed, one half by soiling, and one-half by pasture. The soiled cattle sold at six dollars more per head than the other; the food consumed by the former was grown upon 12$\frac{3}{4}$ acres, one-seventh of which were ruta bagas, the rest chiefly clover. Thus half an acre supported one head for nearly five months.

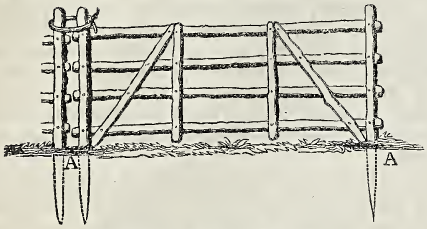
It is obvious that if soiling were generally practiced on the farm, the necessity of division fences would be nearly obviated. This is the case on the farm of Josiah Quincy, and many farms in England. Sheep, and such other animals as need feeding on the ground, being confined by hurdle fences, which are removed from time to time as needed.

In order to place before the eye at one view, the merits and disadvantages of this practice, the following estimate is made, which it is believed is not very far from correct:

Profits.		
In 100 acres used as pasture, by soiling, 66 are saved, as already shown; the annual interest on which would be about $3 an acre,	$200	
Saving of about $1\frac{1}{2}$ miles division fence, at 40 cents a rod in ten years, or 4 cents yearly, a moderate estimate,........................	20	
Saving of at least 100 loads manure, if litter is freely used, as it ought to be,............	25	
		$245
Cost.		
Expenses of cutting 33 acres of grass, drawing and feeding, but not curing; littering and cleaning yards or stables, say............		$100
Annual profit on 100 acres,........		$145

The preceding calculation is for the average price and quality of land in the State. In the vicinity of cities, where the interest per acre would be from 7 to 14 dollars an acre or more, and where maaure might cost 50 cents per load, the profits of soiling over pasturing, would of course be more than double. While on the rich and cheap lands of the western country, it would be a decided loss. It is obvious that to be successful, an abundance of straw litter will be needed; and in proportion as this is abundantly supplied, will be the amount of manure returned.

The preceding hints are given with the hope that careful and well directed experiments may be undertaken. Thorough trial only can establish the advantages of the practice. Many throw aside a new thing at once, if full success does not attend the first effort. But a first effort in any of our common farm operations would be far less likely to succeed, than after years of experience. Experiments may be made upon a *small scale*, with little danger of loss.



Moveable Fence—Fig. 79.

Hurdles, or moveable fences for confining animals to particular portions of ground, are necessary in many cases, where soiling is extensively practiced; and the operation of thus confining them, possesses in part, the advantages derived from soiling, no portion of the field being touched but that on which they are feeding, which is not left till all the herbage is consumed. The manure, being also thus limited to one spot, may be plowed under before much loss is occasioned by evaporation.

A mode of erecting this kind of fence, lately witnessed by the writer, at the residence of Charles Downing of Newburgh, is at once so neat, cheap and useful, that a figure and description may be of value to others. The fence consists of separate frames or "lengths," one of which is shown by fig. 79, with a sharpened post at each end, A. A., driven into holes made in the ground by a crow-bar, and secured at the top by withing together, though the latter is not indispensible. These pieces are made of round poles or sticks split in two, the flat sides being placed next to the cross bars, which are fastened to them by wrought nails at the points of intersection. The points of the posts are driven into the ground to a depth of about fourteen to sixteen inches.

These frames or lengths of fence, are four feet high and eight feet long—they cost, besides the material, two dollars and twenty-five cents per dozen in making, or thirty-seven cents a rod. The material would add about thirteen cents more, making half a dollar a rod, for the whole.

Two men put up thirty rods of the fence, securing the tops by withes, in about three hours. J. J. Thomas.

INSECTS INJURIOUS TO AGRICULTURE.

Messrs. Editors—Permit me to call your attention, and also that of every American Farmer, to a work published in Massachusetts entitled "*A Treatise on some of the insects of New-England, which are injurious to vegetation;* by T. W. Harris, M. D." Cambridge, Mass. 1842. I obtained an early copy of this work, and have now had the advantage of two seasons for comparing the details of the book with such insects as have come within my reach: and I am authorized by this experience to say, that it has more than answered my expectations, almost equalled my most sanguine hopes. So far, even *here in Maryland*, I have found no insect that could be embraced in the object of the work or explained in the title, that was not fully described in that Treatise. When you recollect that the work only pretends to describe insects that prevail in *New-England*, you will admit that this is saying much for the work. It is a strange circumstance, but it appears to be a fact, that all insects of the class under notice, seem to proceed *from* the north-east *to* the west and south. Such was the point of departure, and such the *course* of the Hessian Fly, the Curculio, and I believe every other insect "injurious to vegetation." We have not yet among us the Canker Worm, of which our north-eastern friends so much complain; nor the rose slug, nor some other depredators upon our luxuries and comforts. How long will it be before they shall arrive here? I am induced to offer you this brief paper in consequence of the discovery of the *Spindle worm*, in our corn, (called by Harris, the *Gortyna Zea*, of the family of Nonagrians,) now, so far as I know, for the first time seen here. Harris's Treatise told me all about it, and I have published in our local papers, such a description and method of prevention, as I hope will arrest the evil.

Baltimore, Md. 1844. Gideon B. Smith.

INTRODUCTION OF SPANISH SHEEP.

"Honor to whom honor is due."

The man who "makes two blades of grass grow where only one grew before," is, proverbially, a public benefactor—seeing that his example may benefit others, and stimulate millions to improve their mode of cultivating the soil.

One of the contributors to the last volume of Transactions of the New-York State Agricultural Society, concludes his article by invoking some of his wealthy countrymen to emulate the example of the late Patroon, by adding to our country some animal or crop that may promote the welfare of the farming community. "Is any thing more needed to accomplish this object," says the writer in urging the introduction of the Scottish Highland cattle—"is any thing more needed to accomplish this object, than to stir up the spirit of patriotism which exists among the wealthy land-holders of the Empire State, by pointing to the noble example of the venerated Van Rensselaer? ☞ Let those who would secure perpetual honor to their names, by conferring favors on their country, emulate his worthy deeds."

The spirit which influenced that writer, animates me in now directing public attention to another Benefactor of American Agriculture. I allude to David Humphreys, a friend and companion of Washington—the man who, by "introducing the Merino breed of sheep from Spain into this country," rendered to this Republic, services not less valuable than his efforts in the battle-field. Is not such a man worthy of enduring remembrance? and yet how few are there who now remember the name of Humphreys in connexton with the benefits showered upon American Agriculture by the introduction of Spanish sheep?

Examining the records of the "Massachusetts Society for Promoting Agriculture," I found a memento which should be published broadly now when public attention is aroused, as it was never before aroused, in reference to *Sheep Husbandry*. The grateful testimonial uttered to the merits of Col. Humphreys by the Massachusetts Society more than forty years ago, is now before me: And where is the man among us who will grudge the corner of a newspaper necessary for publishing the interesting fact, that on the 29th of October, in the year 1802, that ancient Society, which yet "flourishes like a green bay tree," UNANIMOUSLY VOTED—

"That a gold medal be presented to the Hon. David Humphreys for introducing the Merino breed of sheep from Spain into this country; and that the Rev. Dr. Parker be a committee to procure said medal, and to cause such inscriptions to be engraven as he shall judge suitable, and to transmit the same agreeably to said vote."

Thus endeth the first chapter. In the next, I may mention a few more facts on this subject, in connexion with the statements made by Col. Humphreys concerning the *Merinos*, when he introduced that breed into the western world. Rho.

Agriculture is the most ancient, the most honorable and the most useful of arts.

SAXONY SHEEP OF THE LATE HENRY D. GROVE.

Messrs. Editors—During an excursion to the east, in the month of May last, for the purposes of business and pleasure, I visited the residence of the late Mr. Grove of Hoosic, Rensselaer co. Although several eulogies have appeared on his character, all fall short of those which the stranger will hear pronounced from those who knew him well and intimately—his immediate neighbors. The saying "that the prophet is more honored abroad," was in his case reversed; it is in the vicinity where he lived, that his excellence as a father and husband—his kind and humane qualities as a neighbor—his benevolence, his rigid probity in all his business transactions, are best known and appreciated. His enduring monument is in the hearts of those who knew him personally and intimately; and those who knew him thus, were his attached and ardent friends.

My object was to inspect the justly celebrated flock of sheep which had been the object of so much of his care, and which so widely extended his fame as a wool grower. The farming public, through the medium of agricultural papers, has been informed of its origin—that it was made up of selections from the most distinguished flocks in Germany by Mr. Grove himself, and at a cost, too, which would seem almost incredible to many, but not to those who are acquainted with the fact that very many sheep of similar excellence are every day selling in Saxony at prices varying from one hundred to 500 dollars per head. This will be found corroborated in the recent communication of Samuel Lawrence, Esq. of Lowell, in the Cultivator, where he alludes to a flock purchased and taken to Russia, a short time since. I refer to this more particularly to show that the wool growers in Germany know how to appreciate *purity of blood;* and the American sheep breeder will fail to attain perfection in his fleeces unless this point is more rigidly attended to than it has been. It is unnecessary to mention more than a single fact to impress the importance of this. It is stated by Lasteyrie, and confirmed by Chancellor Livingston and others, that the pure Spanish Merino fleece will not divide into more than four sorts—the fourth consisting entirely of leg wool; whereas, the grade Saxon and Merino divides into not less than from seven to nine qualities. Thus the remarkable uniformity of unalloyed sheep constitutes their chief value; and hence the reason why the manufacturer so highly prizes "good blood"—and explains the fact of the Messrs. Lawrence paying for such wool more than some others, as is very well known. This important point of evenness is characteristic of every individual I examined, to a degree truly surprising. In many instances it would require a critical eye to perceive any difference between samples taken from the shoulders and flanks. In addition to this, Mr. Grove increased the weight of his fleeces, by judicious selections from male and female for breeding, within a few years, very much; his clips averaging nearly 3 lbs. I am not aware precisely of the average of his buck fleeces, but a buck lamb I engaged of him shortly previous to his decease, sheared the present season 5 lb. 10 oz.

Another very important recommendation is the remarkable compactness of the fleeces, as well as length of staple; the latter quality, through the improvement in machinery, now being highly esteemed by manufacturers, inasmuch as they obtain more sound wool, and less "dead end" than from short staple.

This flock has always been free from foot-rot and other epidemics, and at the time of my visit was in capital condition.

To me it is melancholy to know that this magnificent flock of Saxons is to be sold. Stern necessity demands it or it would not be done. Its original heavy cost to Mr. Grove kept him somewhat embarrassed, and unfortunately thus he died, leaving a wife and four young children, whose fate, whether of competence or a plain support, or in circumstances much below it, will depend on the prices obtained on the day of sale. Let the friends of the lamented Grove look to it; let not the invaluable stock of one of our most enlightened and enterprizing agriculturists, be sacrificed. Yours, &c., L. A. Morrell.

Lake Ridge, July 17, 1844.

HAYMAKING.

Messrs. Editors—The article of hay alone may be set down as one of great consequence to the farmer, being one of his principal products, and the most essential fodder for most kinds of live stock. My mode of managing the hay crop, with some other suggestions, I cheerfully present for your consideration.

Many different notions prevail among us respecting the time and manner of cutting and securing the hay crop. It would appear that some true system should be established with this as well as with the grain crop, which has been reduced to one regular system.

That mode which will preserve as much of the natural juices of the grass as possible, and in the cheapest practical manner, is the one I have endeavored to attain. Counting nothing for board and team, we do not pay out one dollar per acre for cutting and securing our hay, at an average of one and a half tons per acre. In this section of country, a majority of our mowing lands, are composed of clay, and quite free from stones. We lose ten times more of our hay by cutting too late, than by cutting too early. Many let their clover and herds-grass stand till the seeds are ripe, and of consequence the stems become hard and wiry; a good share of the leaves have changed to a brownish state, and the natural sap has left the plant.

To get at the most proper time for cutting, let us inquire what rule the gatherer of herbs adopts in filling his medicine chest, or the distiller his plants. In collecting herbs and plants, they cut them as soon as they come into flower. At this period they contain all their useful qualities, and by cutting at this period, they secure the greatest quantity of oil; but herbs that are cut at this period and dried in the sun, lose much more of their invigorating and essential qualities than they do if dried in the shade. Plants of all sorts, if they are cut in full vigor, and afterwards carefully dried, without any waste of their natural juices, either by bleaching with rain or evaporating in the sun, contain a quantity of nourishing matter nearly double what they do when allowed to attain their full growth and make some progress towards decay. When mowing is delayed, as it very frequently is, till an advanced period of the season, when plants have not only reached their ultimate growth, but begin to decay, this description of herbage must become tasteless, dry, tough and less nourishing. Also over care in drying in the hot sun, by bleaching the juices of the early grasses, must produce a similar kind of fodder.

To commence with the cutting and manner of curing, we will suppose the grass to be a good burden, and in full prime for the scythe, but not ripe. The workmen should be made to cut as low as possible, especially if there abounds a fine bottom, thereby increasing the crop, and all the grass mown in the forenoon should be spread before dinner. As soon as the external wet is off, and it becomes partially wilted, we put it into winrows with a revolving horse rake, and before the sun goes down, into cocks of from 60 to 90 pounds; what grass is cut in the latter part of the day, remains in the swarth till next day.

Grass should be made into cocks of about four feet high, not by rolling, but by laying one fork full upon another, and of as small diameter at the base as possible and stand firm; draw the loose hay out from the bottom all round and lay it upon the top with the ends hanging downwards. When grass is put together in this manner, it is in a great measure out of danger.

It will be proper to give them an airing before they are removed to the barn, and more especially that portion which comes in contact with the ground. When necessary, the first drying wind and fair day, lay them over by putting the top of the cock on the ground, and so manage after by putting as dry a bundle with the green, till you have one cock made up again, out of two being put together. By this treatment there is a more speedy exhalation of moisture by the action of the air, while an incipient fermentation will evolve or discharge a portion of heat, and thus promote the drying of the hay by increasing the evaporation of the humid particles. By this treatment the hay is secured until the maker wishes to remove it to the barn.

Clover hay should remain longer in the cock than most other grasses, that all the larger stems may undergo their proper fermentation. Before removing to the stack-yard or barn, we generally turn the cocks bottom side up an hour or two before loading.

Hay cured in this manner is much heavier, because not so much of the natural juices are evaporated by the direct heat of the sun. Its undergoing a partial fermentation in the cock, prepares it to be placed in larger bodies. Hay cured in this manner, should not be tumbled by the quantity into a mow all together, but one or two loads a day put together, and a mow of twenty tons should occupy the period of three weeks in filling, that it may all be got in as green as possible. The mow should be trod as lightly as possible at the time of filling.

When fears are entertained of over fermentation, a layer of dry straw or stalks over the whole, is an excellent thing. This coarse fodder, absorbing the extra juices of the hay, retains it, and makes it more tender and palatable. We prefer this method to the common one of salting for the above reason—and that we may select our days for feeding the stock their salt in winter, by brining the hay on the more mild and warmest days, when they have the least appetite. In this manner, we have a ready market for our poorest hay. Cattle and sheep devour it with a good appetite. If farmers would pay more regard to this manner of salting their stock, say to one hundred pounds of hay use a pint and a half of fine salt and one pail of water, they would be well remunerated for their extra labor. Sheep and other stock will look as full on these faintest days of winter, by thus salting their food, as they will in the most favorable weather on good hay.

When grass is quite ripe it should be exposed to the sun as little as possible after it is mown, and be made into large cocks or removed immediately to the barn, that by a steaming process, the dry stalks may become more valuable. Hay should in no wise be put into the barn or stack when wet; there is more hay damaged in this manner than by securing it too green. That hay which comes out of the mow the most solid will spend the best. There is more value in a load of hay taken from land that produces about one and a half tons to the acre, than there is in that hay which is cut from lands that produce much heavier or lighter burden.

In stacking hay, first put in the rack about two tons, and let it rest two or three days before more is added. The stackman should be careful about treading near the outer side but as much as he will in the middle, and mind and keep the centre the highest. Four or five tons make the most convenient stack. We have different ways of stacking recommended to prevent vermin. But let the stack be put up as above directed in its proper time, before the seed is matured, and there is no danger of mice; but when it so happens that grass must be put into stacks in a ripe state, salting will aid in preventing the depredations of vermin, but such hay should be fed out the first winter.

It is safer to purchase a large stack by guess than a small one.

The manure may all be removed from the stack yard; the urine is sufficient that remains in the land.

Tight barns are preferable to more open ones, with ventilation at the top; the heat will not drive to the centre of the mow but remains more equally over the whole than it will in an open bay.

A very common but bad practice is to put an assorted lot of hay over a cow, calf or horse stable, for spring use, where it has received all the effluvia arising from the manure below all winter, which cannot add to the quality of the hay, for at a time when the team is the most dainty, the best hay for spring work comes out of a well pressed mow, as little exposed to the air as possible. By dividing the mow and hay stack with a hay knife, not only keeps the hay as fresh as possible, by first feeding out one half, but we can better judge at what time of winter our fodder is half spent.

When a field is designed for clover seed, it is better to eat it down till the first of June with sheep. The after math will be shorter if the heads stand close together, the crop less bulky, but better filled.

If a crop of June grass be light, it many times is better to stand late. The ergot or poison with which it frequently abounds, will all be washed off by rains, and the rowen that springs up will frequently produce a good burden of excellent hay.

As we cannot cut all our grass in proper season, we reverse our mowing by cutting *first* this season the field which was *last* to receive the scythe last year.

Drag-rakes are very fashionable in these parts, for raking light grass, and after the cart, &c. They are of very great advantage in facilitating the work. They are made with a light head six feet long; the teeth set in the head 4 inches apart, and 14 inches long; the handle enters the head in two parts about two and a half feet asunder, and united together about four feet from the head where a convenient place is fixed for the head to draw by. The small hand rake is pretty much laid aside. What would have required the labor of a boy and four or five men ten years ago to rake over, now is disposed of equally as well, by one boy eight, and another fourteen years old, a horse and revolving rake, and drag rake.

Weybridge, Vt., June, 1844. S. W. Jewett.

SOUR SOILS.

Messrs Editors—I could not but expect that my paper on this subject would call out some notice, but I certainly did not look to such a source as Mr. J. J. Thomas. From what I have seen of his writings, I have learned to think him too much of a scientific man to hold to old notions when there is not ground to support them; and I think his own mind, if it considers the true facts in this subject, will lead him to think as I do. This is not flattery, but a candid estimate of the man.

The statement with regard to the lead pipe, in the July No. of the Cultivator, is an interesting one, and worthy of consideration, though not in reference to sour soils, inasmuch as the soil cannot be considered as extending to the depth of 2 or 3 feet. I will not attempt to give an explanation of it, since it would require a chemical examination of the earth from the spot to determine positively what it was that corroded the pipe. The cause was evidently local, and the growth of sorrel, I should consider, entirely accidental. If Mr. Thomas will send a portion of this earth to Dr. Emmons, I will see that it is examined in reference to this fact.

When I spoke of the effect of lime upon the growth of sorrel, I had in my mind a very interesting letter of Judge Darling of New-Haven, in which are found some remarkable facts on this subject. It was published in the Farmer's Gazette for Feb. 1843, and I presume Mr. Thomas has seen it. That this weed disappeared from the land of Mr. Dell after the use of lime, as stated by Mr. T. I do not doubt. But did he apply nothing else ? Did he not apply a course of tillage in connection with the lime, which would be quite as likely to remove it ? In judging of results from any process in Agriculture, all the attending circumstances ought to be carefully estimated.

Mr. T. says that the yellow pine will perish if not planted in what is regarded as a sour soil, and yet sorrel, the presence of which is always supposed to be an indication of a sour soil, will grow where the pine will perish. These facts would seem to contradict each other. I do not see the force of Mr. T.'s conclusion to this paragraph.

I do not know what "are regarded" as sour soils. I do not know what a sour soil is. I have never heard of the presence of any free acid being detected in any soil, nor in the water which passes through it. It certainly would be detected if it were there, or else great mistakes are made in analysis. It cannot be reasoned thus, because such a plant grows upon a soil, that soil is sour. The only evidence of its being sour, is the actual finding an acid in it, and if one is there, it can certainly be found. There may be "great difficulty in determining the constituents of the soil," but this can only be in case the quantity is very minute of any one substance, which I apprehend cannot be the case with the acid in a "sour soil."

Newburgh, July 15, 1844. A. J. P.

CULTIVATION OF FRUIT.—No. VIII.

THE PEACH AND NECTARINE.

The peach is usually cultivated by planting the stone in autumn, at a depth of about two inches; a small part of them grow the succeeding spring, and the remainder the year following. Cracking the stones before planting insures their growth the first season; but it is best in this case to expose them to the action of frost, during winter, mixed with sand or earth, and to defer the planting till spring. Probably their vegetation, in ordinary cases, would be accelerated if they were mixed with earth in a box, and during winter, successively subjected to the alternate action of freezing and thawing, by which the stones would be opened. If the soil be fertile, so that their growth is vigorous, they may be budded the same season; but if not, the operation must be deferred till the second. One and two years growth of the bud will render them large enough to transplant into the orchard.

The most suitable soil for the peach is a rich sandy loam; a light soil is generally preferred, but this is not indispensible, provided the ground be properly prepared. We have known this tree to succeed admirably on heavy soils, when very large holes were dug (6 or 8 feet diameter,) and filled with loose fertile soil. Peach trees, when transplanted, should not be large; a small thrifty tree, well set out, will in consequence of its rapid growth, produce sooner a large tree, than a larger tree, whose size has prevented the work being so well performed. For further directions, see a former number of this series on transplanting and general culture.

It is very commonly supposed that varieties of the peach may be continued without change, merely by planting the seed; hence many neglect their propagation by budding. The least improved varieties doubtless vary least; the common Indian peach, for instance, appears to continue nearly the same through many successive ages, though many sub-varieties of this exist. But the finest varieties, being farthest removed from the wild or natural state, are most liable to variation, and the original is consequently very rarely produced from seed. The nice shades of difference, however, which distinguish different varieties, are frequently entirely overlooked, and the error that the same sort is obtained from seed is thus confirmed.

To obtain good varieties with any degree of certainty, budding must be resorted to. Grafting rarely succeeds, and never unless performed with unusual care on such kinds as have the firmest wood. For particular directions on budding the peach, the reader is referred to the second number of this series of articles, published last winter.

When the great difference between good and bad varieties is remembered, the importance of obtaining the *best*, must be obvious. The reputation of some which are truly excellent, has been greatly injured by the numerous errors in names which have been introduced. Not only are the names of fine varieties attached by mistake to worthless fruit, but good varieties are increased merely by planting the stones, and the original name given to them, which is still continued through successive plantings, though wide departures from the original are thus generally produced.

This confusion and misapplication of names, and consequent perplexity to the cultivator, have induced the attempt to arrange the varieties and distinctive characters, so that this inconvenience may be removed. The peach presents facilities for this purpose, not existing in other fruits. The following, which is generally adopted as the best, is from Lindley. Peaches and nectarines, (which may be considered as one and the same fruit, the latter having smooth skins,) are separated into 3 general *classes*, each of which has three *divisions;* these are each separated into two *sub-divisions*, and every sub-division into two *sections;* consisting in all of 36 sections. Only a part of these sections contain varieties with which we are acquainted, and are only to be filled up as new ones are discovered with characters adapted to them.

Class I, comprehends those whose leaves are deeply and doubly serrated (or cut like sawteeth,) and having no glands on the serratures. Fig. 80.

Class II, contains those whose leaves are crenate or serrulate (or with smaller and more rounded teeth,) and having globose glands. Fig. 81.

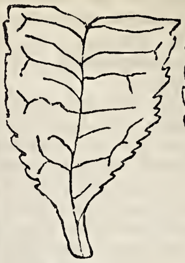


Fig. 81.

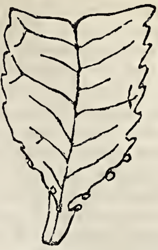


Fig. 81.

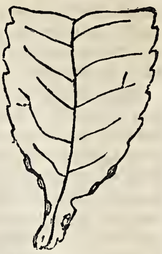


Fig. 82.

Class III, includes all those whose leaves are crenate or serrulate, having reniform (or kidney-shaped) glands. Fig. 82.

"The form of the glands," as Lindley very justly observes, "as well as their position, is perfectly distinct; they are fully developed in the month of May, and they continue to the last, permanent in their character, and are not affected by cultivation. The globose glands are situated, one, two, or more on the footstalks, and one, two, or more on the *tips* or *points* of the serratures of the leaves. The reniform glands grow also on the footstalks of the leaves, but those on the leaves are placed *within the serratures*, connecting, as it were, the upper and lower teeth of the serratures together; their leaves, when taken from a branch of a vigorous growth, have more glands than the leaves of the globose varieties. It will, however, sometimes happen that glands are not discernible on some of the leaves, especially on those produced on weak branches; in this case, other branches must be sought, for which to produce them." They are represented as rather larger and more distinct in the accompanying figures, than usually occur in a state of nature.

These classes, thus formed, are each divided into three divisions.

Div. I, embraces those which produce large flowers.

Div. II, includes those which produce flowers of medium size.

Div. III, contains those which produce small flowers.

These divisions are not so distinctly marked as the classes; the middle and small flowers only differing by the former being larger in all their parts.

The sub-divisions, two in number, are determined by the fruit. The first comprehends true *peaches*, or those which have a downy skin; the second includes *nectarines*, or those which have a smooth skin, similar to that of the plum.

Each of these sub-divisions are again divided into two sections; the former including the *pavies* or clingstones; the latter the *melters* or freestones.* For note see p. 255.

The following synoptical table will exhibit these divisions and sub-divisions as applied to the first class.

CLASS I. Leaves deeply and doubly serrated, without glands.	*Div.* 1. Large flowers.	*Sub.* 1. Peaches.	*Sec.* 1. Pavies.
			Sec. 2. Melters.
		Sub. 2. Nectarines.	*Sec.* 1. Pavies.
			Sec. 2. Melters.
	Div. 2, Middle flowers.	*Sub.* 1. Peaches.	*Sec.* 1. Pavies.
			Sec. 2. Melters.
		Sub. 2. Nectarines.	*Sec.* 1. Pavies.
			Sec. 2. Melters.
	Div. 3. Small flowers.	*Sub.* 1. Peaches.	*Sec.* 1. Pavies.
			Sec. 2. Melters.
		Sub. 2. Nectarines.	*Sec.* 1. Pavies.
			Sec. 2. Melters.

The same arrangement may be adopted with the other classes.

The following list contains some of the best varieties arranged according to the preceding method.

Serrated glandless leaves. Large flower.

Peaches—Pavies.

Old Newington.
Early Newington, or Smith's Newington.

Peaches—Melters.

Early Anne. Tillotson.
Malta.
Noblesse.
Early White Nutmeg.

Nectarines—Pavies.

Scarlet Newington.
Tawny Newington.

Serrated glandless leaves. Small flower.

Peaches—Melters.

Royal George.
Belle de Vitry.

Crenated leaves, with globose glands. Large flower.

Peaches—Melters.

Grosse Mignonne.

Crenated leaves, with globose glands. Small flower.

Peaches—Melters.

Bellegard.
Teton de Venus.
George the Fourth.
President.

Crenated leaves, with reniform glands. Large flower.

Nectarines—Melters.

Fairchild's.

Crenated leaves, with reniform glands. Small flower.

Peaches—Pavies.

Incomparable.
Catharine.

Peaches—Melters.

Chancellor.
Late Purple.

Nectarines—Melters.

Common Elruge.
Violet Hative.
Aromatic.

The following list of peaches will give a constant succession from a period immediately after wheat harvest, until autumnal frosts.

Early White Nutmeg.
Early Anne.
Early Tillotson.
Early Red Rareripe.
Early York.
Grosse Mignonne. } Melters.
White Imperial.
Red cheek Malacaton.
Malta.
Columbia.
President.
Early Newington.
Oldmixon.
Old Newington.
Lemon Clingstone, Pine apple, or Kennedy's. } Pavies.
Heath.

The Early White Nutmeg is a peach of very small size, and a very poor bearer; and a cultivator may count him successful, if he gets a quart of peaches from a full grown tree. It ripens a week or more after our wheat harvests, and is valuable only for its early maturity. The Early Anne is later, but much larger and a much better bearer; and were it not for its very slow growth, would be truly valuable. A larger variety, a few days later, obtained from the seed of the Early Ann, is known by the name of Sweetwater. But the latter is scarcely a day or two earlier than the Early Tillotson, a peach fully equal to it in size and superior in flavor, and far exceeding it in productiveness, and which is in every respect a truly valuable variety, ripening in western New-York in the early part or middle of 8th month (Aug.) All the preceding are cut-leaved, glandless varieties, and are consequently subject to mildew, though the Tillotson is but slightly so, and soon nearly outgrows it.

The peach appears to vary more in quality from the effect of climate than other fruits. Fine American varieties are pronounced worthless in England. And varieties in this country, unusually delicious in favorable seasons, are of inferior quality in unfavorable ones. Again, culture greatly effects the quality; thus, the Heath clingstone, under favorable circumstances, is an excellent fruit, but if the branches are permitted to bear full, the fruit is small and of little value.

Some varieties which are excellent as far south as the vicinity of Philadelphia, when removed fo western New York, prove to be greatly inferior in quality, in consequence of the slightly diminished warmth of summer. Hence only the earlier kinds cultivated there are suitable for culture here. The business of originating new and early varieties for the most northern region adapted to the peach, deserves more attention, and might be productive of some very valuable discoveries.

Peach and Nectarine trees are liable to destruction from two causes, the *worm*, and the *yellows*. The presence of the worm is readily detected by the gum mixed with excrementitious matter oozing from the trunk, at the surface of the ground. The best, and probably the only effectual remedy, is to scrape the earth from about the tree, and then with a knife to follow the holes made by the worm to their termination and destroy it. As this insect merely confines itself to the *bark*, its destruction is very easy. It rarely occurs that trees are completely destroyed by this insect, except they be small; death can only take place when the bark is eaten round the tree. Timely care will prevent this; the evil in fact is only to be dreaded by negligent cultivators.

The disease termed the *Yellows*, is truly formidable, and appears to be exclusively confined to the peach and nectarine. Its cause has never been satisfactorily ascertained. The first indication is an irregular and *premature* ripening of the fruit, accompanied with *purple discolorations* of the flesh. This usually occurs the first season on a part of the tree only. The following season, numerous small wiry shoots grow from the larger branches, the leaves become yellow, the whole tree assumes a sickly appearance, and eventually perishes. This disease is still more to be dreaded from its contagious nature. If not checked, it commonly spreads through the whole orchard. It appears to be usually communicated at the time of blossoming by means of the pollen. But the infection may be conveyed in other ways. The bud from a diseased tree inserted in a healthy stock will cause its death, and even the use of a knife in pruning which has been previously used on a diseased tree, is sufficient to communicate the disease. Facts also greatly strengthen the suspicion that the roots of healthy trees have imbibed the contagion by mere contact with those of diseased ones. After it has once attacked a tree there is no remedy; and to prevent it extending to others, the diseased tree should be immediately destroyed. No young trees should be planted on the same spot, as the diseased roots still remain in the soil. Coxe says, "The peach tree cannot be cultivated with sucess on the site of a former plantation, until some years of an intermediate course of cultivation have intervened." As it is probable that the pit or kernel becomes infected, caution would direct that stones from diseased trees be never used for planting.

The shortness of life in the peach tree and the consequent difficulty of its culture in some places, appear to be chiefly owing to this disease. In western New-York, it is comparatively unknown, and great care should be used by cultivators that it be not introduced by importations.

The peach tree, though generally supposed to be very short lived, when not destroyed by unnatural causes, will continue to flourish and bear for many years. Trees

---

*The terms *pavies* and *melters* are decidedly better than those of *clingstones* and *freestones*, as the softest and most melting varieties adhere in all different degrees to the stone. Hence the term *clingstone,* in its widest sense, may apply to both pavies and melters.

twenty years old and upwards, are frequently seen in western New-York; and in the town of Farmington, Ontario county, are the remains of an Indian orchard, containing peach trees a foot in diameter and probably fifty years old, in a bearing state.

The curled leaf, which frequently appears on peach trees early in summer, is occasioned by frost or chilly weather. These leaves soon drop and the tree assumes a healthy appearance. This would not be worth noticing, except that it sometimes occasions unnecessary alarm.

The growth of some varieties is retarded by mildew upon the young shoots. It appears to be exclusively confined to those having serrated glandless leaves, as the Early White Nutmeg, Early Ann, and some of the earlier varieties of the red rareripe. It is not a very serious evil; and the best remedy appears to be good soil and good culture to stimulate the growth. All yellow-fleshed varieties appear to be entirely free from it.

The length of this article precludes any further remarks on the curculio, which attacks the nectarine and sometimes the peach, than merely to say, that the evil may be prevented by jarring the insects from the tree on cloths spread beneath, and then destroying them; or by confining swine in the orchard, every year, during the early part of the season. The former should be done when the fruit is as large as a pea, and continued daily or oftener until no more are found. The latter should be continued so long as the injured fruit continues to drop from the tree. In the next number, a fuller account of this insect will be given. J. J. T.

CEMENT CISTERNS—THE BEST METHOD OF CONSTRUCTING.

Messrs. Editors—You will doubtless allow me to communicate through your valuable monthly, pro bono publico, but especially for the benefit of those interested, a few brief hints in regard to the proper manner of constructing cisterns; household appendages so necessary to the comfort and convenience of those who are not blessed by nature or art with a generous fountain of pure soft water at their doors.

Of the various methods recommended and practiced in different sections of the country, the plan of constructing cisterns of brick and water cement, is doubtless far superior to any other, particularly in regard to usefulness and durability. Though we have made one answer a tolerably good purpose for a number of years, made of white pine, bound with strong iron hoops, and firmly set in blue clay, yet the liability of the material to decompose and become useless, even when every precaution is used, suggested the propriety of adopting some improved mode in constructing it. The plan chosen was the one above mentioned. We constructed two of different sizes. For the largest, a pit was ordered to be dug ten feet in diamter and nine feet in depth, the bottom being shaped similar to that of a large potash kettle, and the sides perpendicular. The brick selected from the kiln for the purpose, were those burned hard, though but little cracked or warped. The mortar used was made of two parts coarse clean river sand, and one part ground water cement ready for mixing, obtained at the mill near Schuylerville, N. Y., at 25 cents per bushel, though from the fact that it does not petrify or "set" as soon as some kinds, it is believed a superior quality may be obtained. Water is worked in to render it sufficiently soft for use, like common lime mortar. With materials and pit thus prepared, the mason commences operations exactly in the centre and bottom of the excavation, by covering the surface with a thick coat of his mortar, and laying the bricks with their flat surfaces contiguous, forming as soon as convenient, a perfect circle of some three or four feet in diameter. Regular courses are then laid around the circle, taking care to increase the inclination of the upper edge towards the centre, so that when the bottom is finished to the edge from where he wishes to carry up the sides, the bricks will be placed in an angle of about fifty degrees with the perpendicular side. Extreme care should be taken with this part of the work, and an extra quantity of cement used, in order to prevent the possibility of a leak, as in turning up the wall, the outer edges of the bricks must necessarily be further apart than the inner, and every cavity should be completely filled with the mortar. The sides were then carried up perpendiclarly five feet, from which point they were gradually drawn in until carried up nine feet, and the neck or top so small as to admit of being covered with large slabs of white marble, with a circular orifice sufficiently large to admit an ordinary sized person, and to place a pump for raising the water. A curb is then carried up sufficiently high to prevent any action of the frost on the work below, and filled in with dirt or gravel that will not heave. At the top of the brick wall and immediately under the stone covering, is left an opening the size of a brick, from which a drain is laid to conduct off the surplus water, made like the cistern of brick and cement. While the wall is going up, the mason should be particularly careful to lay on a good coating of cement over the outside before filling in, care being taken to preserve a sufficient space between the bank and wall for this purpose. To complete the work, a flat stone is placed on the bottom of the cistern in a bed of mortar for the pump to stand upon, the whole inside plastered with cement similar to the walls of a house, and after drying a few hours, whitewashed with a thick mixture of cement and water, and the work is done. Water may be admitted after the work has become partially hardened, but should be conducted to the bottom in such a manner as not to wash the coating of cement. The first quantity of water discharged into it, will be hardened and rendered unfit for use, by the sulphate of lime contained in the cement, which may be pumped out, when the next will be soft.

The advantages of having cisterns constructed as above described, must be apparent to the most casual observer. When done in a workmanlike manner, and with proper materials, they will be as durable as though formed of solid rock, and the inside presents a surface as free from filth as any stone vessel used for culinary or household purposes. Different families will of course require different sizes, and the amount of material necessary to construct them, vary accordingly; the one described, containing something like 45 hogsheads, the other about 20. The builder, Mr. Richard Swartwout of Schuylerville, N. Y., has often, to save expense, been ordered to plaster the cement directly on to the earth as shaped with the shovel, and covering with plank or large stone as before. But the mode is evidently objectionable, as, if accidentally exposed to the frost, the sides will crack and become leaky. Brick cisterns laid up with common mortar, are also liable to crumble in time, and prove defective. In either case, however, the top should be sunk below the surface, and covered with gravel sufficiently deep to prevent the action of the frost on any part of the masonry. If any of your readers choose to construct their cisterns according to the above directions, taking care to secure an experienced workman and good materials, they will find doubtless, should they live so long, that the lapse of half a century will not affect their usefulness or impair their durability. J. Chace.

Hoosick Falls, June, 1844.

CORN-STALKS FOR SOILING.

Some remarks were made in another column, on the advantages of soiling. One mode of raising green fodder for this purpose, should have been mentioned. This is by sowing corn. A sufficient number of experiments have been made to establish fully its advantages. Those made last year by the writer, by sowing it in drills two feet apart, and about twenty to thirty grains per foot in the drill, yielded over fourteen tons of green food per acre, though the land was not rich, and would not probably have given more than thirty bushels of the grain in the usual way. Dr. Button of Newark, N. Y., raised by sowing broadcast, (four bushels of seed per acre,) five and a half tons of dried fodder; and J. A. Miller of the same place, raised last year, which was a very dry and unfavorable season, and on poor and unmanured land, four tons of dried fodder to the acre.

The small size of the stalks, caused by the dense growth greatly improves the quality, horses and cattle consumi entirely both leaves and stalks. A very striking benefit is derived from the use of the green stalks, during the latter part of summer and in autumn, for milch cows; and a proof of their excellence is furnished by the fact that when the dried fodder is thrown upon the ground and covered with the best hay, cattle will throw aside the latter, which will not be touched till the stalks are entirely consumed. J. J. T.

PLOWS.

Messrs. Editors—When I penned my communication on plows for the May number of your Cultivator, I had no intention of engaging in any controversy on that subject, or of detracting any from the merits of Prouty & Mears' Centre-Draught Plow. Nor would I deem it necessary to trouble you at this time, were it not for some errors into which a correspondent under the signature of "Centre Draught," in your last number, has fallen.

When I first observed the *plate* of "the Boston Centre-Draught Plow,' I was struck with the obvious advantage of the *new gearing*, especially in adding strength to the plow, for it is not uncommon to break the beam, especially in very stony and rough plowing. But where there is occasion as sometimes occurs to put the plow in to the beam, the fastening would *interfere* with the work. The wheel of the centre-draught *is necsssarily* placed on *one side*, for the iron bar that runs under the beam occupies the place ordinarily allotted for that instrument.

But I am told that, what is matter of opinion is no evidence in a court of inquiry. I have not experienced this as law, but with due deference to your correspondent whose experience exceeds mine on this point, I would observe that I have yet to learn that farmers when giving their opinions on implements of husbandry are required to be tied down to such strict rules. If all were to *act* on this principle the inventors of the various new patents would be illy rewarded for their genius and labor. A good description or a good plate is sometimes sufficient for the practical man. But while your correspondent would trammel me with rules, he has himself totally disregarded such trappings. When he claims superiority for the centre-draught plow for all kinds of work, he has simply given his *opinion*. He has evidently not seen the Bergen plow, or he would not have fallen into the error of not observing that the wing or share reverses as well as the point.

I observed in my former article that I had no direct interest in the sale of any plow, which I have only to repeat. If Prouty & Mears' patent should prove superior to any yet in use, I will be benefitted thereby in common with the rest of the agricultural community. But as a matter of opinion—opinion founded on experience, I cannot assent to the doctrine laid down by your correspondent and claimed for the centre-draught plow; that a plow best formed for turning over a tough sod, is also the best for all *other purposes*—and the best for every kind of soil. For ordinary cross-plowing between rows and hills, the plowman requires no wheels and centre-draught fastenings. His machinery must be simple, and his plow light. In this section I have found Mr. Mayer's patent generally preferred for such purpose.

In conclusion I would inform "Centre draught," and the dozen to whom he alludes, that what was before stated as *belief* in reference to the invention of the self-sharpening principle as applied to points and shares, is fact. The invention belongs entirely to Mr. Bergen and was secured to him by patent in 1819. So far from the name of the inventor being lost in the lapse of time, I have the above declaration from him in propria persona, together with his acceptance of the challenge to meet the centre-draught plow at the plowing match to be held at Poughkeepsie in the fall, where there may be competitors that will outstrip either of the plows under notice.

Brooklyn, July 17, 1844. J. G. B.

Cure for Founder.—The seeds of sunflower are the best remedy known for the cure of founder in horses. Immediately on discovering that your horse is foundered, mix about a pint of the whole seed in his feed, and it will give a perfect cure.

ORNAMENTAL GARDENING.

Those who have had the pleasure of reading the first number of Colman's "European Agriculture," will doubtless agree with me in the opinion that the author has amply fulfilled the expectations which his abilities and opportunities had raised. Much that is interesting, and a great deal that is instructive, are comprised within the eighty pages before us; and the justness of his remarks in most instances, will be freely admitted; at the same time, those who are intimately acquainted with the state of society and morals in England, in the higher as well as lower classes, will see at once that in ascribing, though indirectly or by implication, all or nearly all the vice and immorality to one class only, he has greatly erred. They will also be surprised to find him contrasting, to the disadvantage of the English laborer, their vicious habits with the *worst cases* to be found in our own country. We must not complain loudly of the abuses or illiberality of English tourists, unless we are exceedingly careful not to tread, though it be very faintly and at a most respectful distance, in their footsteps. But my object is not to criticise, but to commend the work before us; and the defects we may see are only the more visible from the beauty and excellence of the surrounding mass.

You have already given some extracts from the work, and it is now my wish to call the attention of your readers to a few remarks, where not only the pleasure, but the utility, in a physical and moral aspect, of the cultivation of grounds for trees and shrubs, is strongly enforced.

"The cultivation of flowers and shrubs and vines, is a remarkable and prominent feature in the landscape of England: and a circumstance which has given no little gratification to my national pride, has been the profusion of American plants, which are seen in the shrubberies and plantations and pleasure grounds, both public and private. * * Green houses and conservatories are almost universal in the country where any thing like a garden exists; and the better class of houses are surrounded and adorned with a great variety of flowering shrubs and plants, presenting through the season, a charming succession of gay and brilliant ornaments. Even the laborer's humble cottage, too seldom, I am compelled to admit, any thing but a picturesque object, will occasionally have its ornamental shrubs adorning its doorway, and the ivy hanging its beautiful tresses over its window, forming as it were, a mirror, set in a frame of the richest green. The village of Marr, in Yorkshire, not far from Doncaster, and the village of Edensor, in Derbyshire, near Chatsworth, and the village of Lord Brownlow, in Lincolnshire, the best built, and by far the handsomest villages I have yet seen in England, to cottages of an excellent and picturesque construction, add those beautiful rural embellishments of vines and shrubs and flowers, and at first blush compel a reflecting mind to admit the moral influence of such arrangements upon the character and manners of their inhabitants."

The sarcasm in the following remark, it will be seen is in the writer's own style: "I have said and written a great deal to my countrymen about the cultivation of flowers, ornamental gardening, and rural embellishments; and I would read them a homily on the subject every day of every remaining year of my life, if I thought it would induce them to make this a matter of particular attention and care. When a man asks me what is the use of shrubs and flowers, my first impulse is always *to look under his hat and see the length of his ears*. I am heartily sick of measuring every thing by a standard of mere utility and profit; and as heartily do I pity the man who can see no good in life but in pecuniary gain, or in the mere animal indulgences of eating and drinking."

Speaking of the facilities which we possess, in a free use of our own land, in a fine climate, and in the beauty of our native plants, for the formation of gardens and ornamental grounds, he says, "Few countries in temperate climates are richer in the floral kingdom of nature, and the luxuriance of vegetable growth, and the splendors of vegetable beauty, than the United States. Why should they not be cultivated? Was the human eye, that wonder of wonders, that matchless organ of our physical constitution, that inexhaustible instrument of the most exalted and varied pleasures, made in vain? Are the forms of beauty in the natural world, so infinitely multiplied as they are around us, made for any other purpose than to be enjoyed; and what better means can we take to strengthen the domestic affections, of all others the most favorable to virtue, than to render our homes as beautiful and attractive as possible?"

My limits do not permit me to copy the author's remarks on the vice, impurity and crime, and the disease and pestilence, generated by closely built cities, and cellars and dirty lanes, crammed with wretched inhabitants; and on the imperious necessity of providing amply all new cities with public squares and public gardens, where a pure air may be breathed at least occasionally; but the following instance of munificence cannot be passed over: "Mr. Strutt, an eminent manufacturer at Derby, employed Mr. Loudon—the late distinguished horticultural writer—to lay out, plant, and ornament these grounds, at an expense of ten thousand pounds stirling, or fifty thousand dollars; and then, with eminent liberality, gave them to the city of Derby for the public use and enjoyment of its inhabitants. Tens of thousands of pounds expended in the erection of a Corinthian column, or a marble mausoleum, would not have formed so durable or extended a memorial of him; and thousands upon thousands yet unborn, in the enjoyment of this beneficence, will invoke blessings upon his memory."

I am also compelled to omit the truly interesting description of the English parks—those princely specimens of embellished nature—with their green turf sometimes kept so smoothly shorn, "that it seems more like treading upon velvet than upon grass"—whose undulating surfaces and wide plains are overspread with broad and magnificent forest trees, many of them with ages numbered by "patriarchal centuries," and which have survived the hoarse winds of hundreds of winters, the scathings of the lightning and the tempest, the successive changes of coming and departing generations of men, but still standing "green in their old age, the mute yet eloquent historians of departed years." But how far more gratifying would be the contemplation of such magnificent scenes, if the recollection did not so often force itself upon the mind, that they have been made and kept up in too many cases by the hard and weary labor of hundreds of starving but industrious poor; and that besides, they are too often made the scene

> "Of all the savage din of the swift pack
> And clamors of the field."

Our author appears to have received a plentiful dose of this latter kind of "*sport*," which he thus describes:—"Two or three days coursing, manly and healthful as the exercise on horseback undoubtedly is, and strongly exciting as the sport is, did not quite reconcile me to it; and the wailings and shriekings of the affrighted and dying hares in the jaws of the hounds, sounded in my ears for several days afterwards, like the cries of expiring children." J.

PHOSPHATE OF LIME, &c.

MESSRS. EDITORS—In the June number of the Cultivator, I observed an article from "A Practical Farmer," of Staten Island, inquiring of the "*late Geologists of the State of New-York*," regarding the localities and quantity of phosphate of lime in the different districts. The writer speaks in a very complimentary manner of the labors of the geologists, and of the benefits arising from the results of their investigations. It is certainly very consolatory to know that even one individual in this community regards our labors of some importance, when we are so often made to feel that very many question the utility of the whole.

I will endeavor, in a few words, to answer the inquiries, so far as I am individually concerned, remarking that the quantity of this mineral in any locality yet discovered is sufficient only for cabinet specimens, and, of course, cannot come into use for agricultural purposes. My own labors, since the first year of the survey, have been confined to that portion of the State west of the parallel of Cayuga Lake; a district in which the mineral in question is not known to exist in a separate condition. The recent investigations of Mr. B. Silliman, jr., make known to us the important fact that the solid structures of the recent corals, contain phosphates of lime and magnesia, both substances equally important in agriculture. Some notice of the analysis of corals, made by Mr. Silliman will be given in the July number of the American Journal of Science,* and a more detailed account will appear in the published works of the U. S. Exploring Expedition. The general results, however, are of the greatest importance. It is well known to a large proportion of the community that the greater part of our limestone formations are of marine origin, and the materials composing them are the remains of corals, shells and other marine animals, either in a perfect state, or more or less broken and comminuted. Of these materials the remains of corals and other zoophytes form by far the larger proportion. The phosphates which these contained in their living state are of course still retained in their fossilized condition, and the immense and inexhaustible limestone formations extending from near the Atlantic coast to the Mississippi river will furnish an inexhaustible supply of this material as the rock becomes decomposed. This without doubt is a great cause of the productiveness of those soils derived from the limestones, which occupy such an immense area in the middle and western states.

All that can be said of the phosphates in the western part of New York will be readily understood. There is no locality where the mineral can be obtained by itself, but the results of this analysis prove that it exists in all the limestone formations throughout that portion of the State; and though it may not in this form be found profitable for exportation, it nevertheless offers an inexhaustible source of fertilization to those farmers in the neighborhood of limestone deposits.

These facts also offer another subject for consideration, which is in the proper selection of limestone for agricultural purposes. Since the phosphates occur in the corals it is very evident that the coralline limestones, or those composed in the greatest degree of corals, should be selected for the purpose. Doubtless all the limestones of marine origin contain these substances, but an examination of the different strata will prove that some portions contain a much greater number of corals than others. The relative value of these different strata can, however, be easily tested by analysis or by a few experiments on the field. Since agriculture is rapidly approaching to a rank among the exact sciences, every fact or experiment of this kind should be recorded, for it is only by this means that we can arrive at just conclusions.

The crystalline limestones have to a great extent and perhaps entirely resulted from an alteration of the sedimentary strata; and in these the phosphate of lime is often separated, forming crystals or crystalline masses. This, doubtless, arose from the same cause which changed the nature of the mass around. The phosphate of lime is not, however, uniformly disseminated throughout any mass of limestone, but occupies certain beds or ranges, and may perhaps have resulted from the more coralline portions of the mass. This supposition derives additional force when we know the fact that, in the lower stratified limestones, the massive corals occupy a very limited thickness of the whole, and it may not be irrational to conclude that this portion has produced the phosphates as we now find them. I would not be understood however to deny the existence of the mineral in other portions of the crystalline limestones, for we often find it in minute crystals, and it may be so disseminated as to be invisible.

I doubt not but the inquiries of your correspondent will call out the observations of others, which may result in much important information on this subject. The value of phosphate of lime in an agricultural community can scarcely be overrated, and any person who might discover an extensive deposit of this substance would confer an important benefit upon the community. Of the value placed upon this substance by the English agriculturists we may form some opinion, when, upon the knowledge of an extensive locality of the min eral in Spain, a competent person (Dr. Daubeny I believe) was sent out to examine it, and the great distance from the coast was the only obstacle to its extensive importation into England.

---

* The Journal had not been received when this article was written.

I wish it were in my power to furnish more directly important information to your correspondent, whom I suspect to be somewhat of a geologist as well as "practical farmer." A large amount of interesting matter upon this subject and other similar ones, could easily be furnished to the inquiring farmers of our country, and when they shall feel an interest in the subject the facts will readily be forthcoming. If the farmers would but make their inquiries definite, they could readily be answered, but there is far less inducement to give information when the writer does not know that even *one* of his readers may care to learn what he is endeavoring to teach.

With my best wishes for the prosperity of your correspondent and all practical farmers, I am

Very truly yours, &c., James Hall,
Late Geologist of the 4th District of the State of N. York.
Albany, July, 1844.

USEFULNESS OF TOADS.

In proportion to what he is capable of doing, there is not a more useful animal to man than the toad. He has not bad habits, and in the pursuit of a livelihood he is sure to benefit some body. Yet how often do we find him the victim of an ignorant and cruel prejudice. Naughty children are allowed to torture and kill them through mere wantonness; and the fastidious lady sometimes orders them expelled from her garden, lest her nerves might be disturbed by meeting them in her walk.

The spawn of the toad, like that of the frog, is deposited in the water. As soon as the young have attained the use of their legs, they take to the land, and subsist on such flies, beetles, and worms, as they are able to swallow—thus in obtaining their subsistence, rendering a very essential service to the farmer and gardener. The number of insects in this way destroyed, is immense. As many as fifteen beetles have been found in the stomach of a single toad. It feeds mostly in the night, at which time insects are abroad. It is quite amusing to see the toad seize its prey. In the dusk of evening, it may be seen through the summer season, near the places most frequented by insects, snapping up, almost with the quickness of lightning, every bug or worm that makes its appearance.

In the days of boyhood, we have often amused our friends by the exhibition of a large pet toad. During the day we kept him in a little pen in the shade, covered by a board. At evening, we let him out and fed him with "white grubs," "cut-worms," &c., which during the day had been detected in their depredations on the cornfield. Sometimes when his appetite was keen from twenty-four hours' fasting, we would enjoy the sport of seeing him swallow a big horn-bug or "pinching-bug." And such a *face* as the toad would "*make up!*" But after scratching and straining a little, he would get him down. On one occasion this toad swallowed in rapid succession, *twelve* full grown larvæ of the may-bug, (the "white grub.") This will give some idea of the great benefit which results from the destruction of insects by this animal.

Several years ago, a gentleman advertised in the newspapers for toads to put in his garden, for which he offered a small sum each, and if others would follow his example, and thus induce the boys to save the toads alive instead of killing them, all would be gainers.

Naturalist.

Messrs. Editors—In the Cultivator of March 1843, A. R. McCord complains that the ants injure his peach trees. One of the greatest annihilators of ants, as well as other insects, in this country, I conceive is the toad. A few of these useful quadrupeds in a garden, are a pretty sure guarantee against the destruction of plants by ants, bugs, worms and flies. Where indigenous to the country, they can be easily collected and placed in the garden. Not being very swift on the foot, they do not wander far from home, but have a strong attachment for the locality in which they reside, and will, terrapin like, sometimes return to the place from which they are forcibly driven, unless prevented by some obstruction which they cannot overcome. The adage says, "there is no telling by the looks of a toad, how far he can hop."

They are a very grave and sedate looking animal, and if they do not "go forth at eventide to meditate," they most certainly choose that time to roam abroad in quest of food. For this purpose they are furnished with a slender and flexible proboscis-like instrument, three or four inches in length, which they throw from their mouths with great velocity, snap an insect, and convey it with inconceivable rapidity, to the natural receptacle of food. This proboscis-like apparatus lies rolled up in the mouth, and serves them for the same purpose as that of the elephant; is longer and more powerful in proportion to the size of the animal. In symmetry of form they may well compare with the elephant, bating that necessary appendage to the beauty of all quadrupeds—a tail.

The name of a toad has been too long a bye-word and a reproach. They are one of the most innocent and useful of animals. Vegetables they never injure. Why, when and how the almost universal antipathy to toads took its rise, would be a curious inquiry for the naturalist and philosopher. It will probably be conceded that the unrivalled English epic poet contributed his full share to the formation of a prejudice against them in the minds of his readers, by representing the arch fiend as sitting at the ear of our primitive mother, insinuating the baleful poison of his seductive tongue—"squat like a toad." If the toad had not been one of the most innocent of animals, it is to be presumed the prescient Lucifer would not, on that occasion, have assumed its shape.

The toad needs a shady arbor with mellow ground, which can be easily burrowed, where he may retire on the approach of day-light, to repose himself, sheltered from the heat of the noonday sun.

A few years since I had occasion to remove a bank of earth in my garden which had been undisturbed for more than forty years. It was filled with an innumerable multitude of ants. As Peter Pindar wished, when the rats destroyed one of his most delectable odes, that they might fill the maws of cats—so I had a strong desire that the ants might fill the maws of toads, I procured a few, gave them possession of the premises, and the ants were soon missing.

It is perhaps worthy of observation and inquiry whether the tree toad may not be useful in preventing the ravages of insects on trees. I have noticed that apple trees on which these toads make their home, are seldom infested with caterpillars. Goldsmith, in his Animated Nature, has omitted to notice this species of the toad family. D. J.

Newbury, Vt., July, 1844.

FARM SCHOOL.

Mr. Luther Tucker—The Farm School, which I incidentally mentioned a short time since, has commenced, under the supervision of Stephen Sweet, Esq., late of West Troy. Our motto is, and ever will be, "to improve the soil and the mind." The school will be limited to ten boys, (including my own,) of decidedly moral and virtuous character—no others can have an abiding place with us, nor can drones, under any circumstances, be harbored in our hive.

That labor is honorable, we intend both to preach and to practice. Particular attention will be paid to physical training, and it will be our aim to carry out the views expressed in regard to the Elm Craig School, in your July number, to which we would particularly refer. I rejoice to see the agricultural thermometer rising. It speaks nobly for Tennessee. Will Mr. Fanning forward us his pamphlet? We like the extract so well, we want the whole story.

We commence with my four sons only, under the plain and unassuming title of Farm School, meaning that merit and not name alone shall be our recommendation. The growing and cultivating of fruit trees, from the first germ in the nursery, to the fruit-bearing tree of the orchard, will be taught; and another year, it is intended to attach a cocoonery, where the silk business in all its variety will be illustrated.

Our location is pleasant, healthy, and of easy access, being 9 miles west from Saratoga, and 5 miles northwest of Ballston Springs. Terms, $150 per annum, all charges included, payable quarterly in advance.

For further particulars address the undersigned, (post paid) Ballston Spa, N. Y. SETH WHALEN.

BEES.

MESSRS. EDITORS—I see you frequently devote a column in your valuable paper to *bees*. Some things have recently come under my observation which are new, and somewhat novel to me, relative to the swarming of bees. I supposed until lately, that when bees swarmed there was but one queen bee came out with the swarm. But recent experience and observation have convinced me otherwise. I find that not only two or three queens come out, but sometimes as many as five or six leave the hive at the same time. If you think the following *facts* are worthy an insertion in your paper, and would interest any of your numerous readers, and throw any light on the nature of bees; or elicit any remarks from some of your old and experienced correspondents who have long been acquainted with bees, you are at liberty to make them public.

On the 25th of May, between 11 and 12 o'clock, I had a hive of bees which commenced swarming. They flew some 30 or 40 yards, and began to settle on the limb of a peach tree about ten feet from the ground.

Before they had half settled, another hive, standing ten or twelve feet from the other, commenced swarming; and before these had all come out, another hive standing three or four feet from the one last mentioned, commenced swarming. They all followed in the same train of the first swarm.

I got a hive and began to take down the first that had settled, with a basket that I use as a hiver. The other kept settling in the same place, and as I could make no distinction between swarms, I continued taking down, until I had taken them all down and put them into a large square hive. They remained quiet during the afternoon, but did not all incline to go into the hive; a quart or two remained outside. At night I carried them to the place where I intended they should stand. The next morning before sunrise I made them a visit, and found nearly all in the hive. A little distance from the mouth of the hive I found a dead queen. I raised the hive, and saw another dead queen on the bottom board. I took them both away. About two hours after, I found two more dead queens drawn out of the hive. A few bees were flying about, as I have frequently seen them when they have lost their queen, but the main body of the bees were quiet. About 12 o'clock there appeared to be a good deal of commotion among them. I went to my dinner; was gone about half an hour. On my return, I found the hive *empty*, except a few scattering bees. On the bottom board lay another dead queen which made *five* that I had found dead. I looked around to see if I could find any trace of the absconded bees. About 20 or 25 yards from the hive, I found a swarm of bees settled on a peach tree, which I supposed to be a part of those that had left the hive. There could not have been more than one third or one half at the farthest, of what I had put into the hive the day before. What had become of the others I could not tell. I went for a hive, but before I got one ready they all took their wings and went to the woods. I would here remark that the first hive that commenced swarming the day before had swarmed *three* times this season before, and each time had returned to the old hive, of their own accord. The second time I knew a queen came out, for I found her in the grass, and lifted her up, and she arose into the air. Whether she got lost, or returned to the old hive with the bees I could not tell. On the next day (May 27,) the same hive that first commenced swarming on the 25th, swarmed again. I was present when they came out. Seeing a number of bees on the grass near the hive, I looked for the queen. I soon found *one* and took her prisoner, as I was determined to put the bees back into the old hive. The bees flew a short distance and settled on the limb of a tree about 12 feet high. I got my hiver and took them down. I had the curiosity to examine them and see if there was another queen, and to my surprise I found *three* more, all of which I made prisoners. I then let the bees go back into the old hive. The next day (May 28,) I was informed that a swarm of bees had come out and settled on a tree in the yard. I did not see them till they were all settled; of course I could not tell what hive they came out of. I got my hiver and took them down. I soon found one queen; cropped one wing to prevent her from flying away, and put her into a hive. On farther examination I found another, which I took away and killed. I put the bees into the hive, and set it where I intended it should stand. During the afternoon I passed the hive several times. At one time I discovered a queen outside of the hive which had *not* her wing cropped. She had hid herself in the bees, and I had overlooked her. I took her prisoner. The next day the bees came out of the hive, and went directly to the woods. I then ascertained for a certainty that *five* queens had been killed, including what I had killed myself. And allowing *one* to go off with the swarm, there must have been at least six queens when they first swarmed.

On the 30th, the hive where I put the bees back on the 27th, (after destroying four queens,) swarmed again. I examined them, and found two queens. One I killed—I cropped one wing of the other and put her into a hive with the bees; I thought there was no use in putting them back again into the old hive, they appearing determined on swarming, and would multiply queens as fast as they wanted them. JACOB HITCHCOCK.

Dwight Mission, C. N., June 8, 1844.

Several queens are often brought out in a hive near the same time, but as only one is necessary to a swarm, the others are either killed about the time they come out of their cells, or combats ensue between those queens attached to the new swarm, and are continued till only one remains alive. Such is the deadly hostility which is manifested by the queens towards each other, that two can not long live in the same hive.—EDS.

POLITICAL ECONOMY

MESSRS. EDITORS—The rain, which has been pouring for three days, has afforded an opportunity to read your paper of the current month. On page 219 is the following wise conclusion, "a nation's imports should not exceed its exports."*

Had this been the first time I had seen this sophism, I should have passed it in silence; but the foolish sentiment has been so often printed by those who ought to know better, that I am unwilling that your Alabama correspondent should go unanswered.

If a wagoner from Vermont should take a load of *notions* to Boston, and a load of groceries back, as the avails of his export load, which was not worth any more on his return, than he gave for his load at starting, how long would it take him to get rich, or for the town in which he lived to become rich, by a thousand such transactions?

Any boy can understand that the man would lose his own time and use of his team, wear, tear and expenses.

When ships are employed on similar errands to all parts of the globe, the magnitude of the affair, or some other cause, seems to involve it in a fog, and every little while some wiseacre is crying about the ruinous effects of a balance of trade. Some newspaper scribblers will give us all the tables from the Treasury department since 1789, to show that we are four hundred millions poorer than we should be, because our balance of imports amount to nearly this.

---

* That the reader may understand the position assumed by our Alabama correspondent, we annex the paragraph from which Dr. Bates makes this quotation. It is as follows:

"I will not produce arguments to show that economy is a blessing and extravagance a curse. The experience of any man who has reached thirty years of age, and is possessed of an ordinary understanding will respond in the affirmative. A farmer, to be economical in the use of money, must by proper care prevent the necessity of paying out money in the way of expenses, or in other words, he must live within himself. In order to do this, it is not necessary that he should make all he needs. By no means. But it is essentially necessary that he should make his expenses conform to the amount of his annual income—just as a nation's imports should not exceed its exports."

If it had not amounted to this, and much more, we should have been poor indeed. It is truly astonishing that the balance has been so much, when we reflect that so much has been paid abroad for the old national debt and interest, and so much is yearly absorbed in paying interest on State, corporation and individual loans abroad.

True, a great part of these latter have come home in goods and swelled the import tables. Our exports are valued at the place of departure, and our imports, until 1833, were valued at the foreign invoice with 20 per cent added for those from beyond the Cape of Good Hope, and 10 per cent for all others, as cost of transport and profit. Since then, they are valued by the true price at the port of entry. Now it is easy to see, the value of imports should be so much greater than that of the exports as to cover the use of ships, wages of men, finding, insurance and profits.

The profits or balance at this time would be nearer thirty millions per annum, than twenty, if we were not obliged to leave in Europe some twelve or fifteen millions of interest money.

That individuals or nations who *consume* more than they *produce*, must grow poor, is evident; but that a nation should not import more than they export, is sheer nonsense. Yours, &c. James Bates.

Norridgewock, Me., July 12, 1844.

P. S. Hay, except on old fields, will be good. Grain and potatoes never looked better, corn is small, but of healthy appearance. The season has been cool, the early part dry. But latterly, rain in abundance.

THE SHEEP.

History, Structure, Economy, and Diseases of the Sheep—Illustrated with fine engravings. By W. C. Spooner, V. S., London.

We acknowledge the reception of a copy of the above work. We consider it one of the most valuable publications that has yet been issued on the subject to which it relates. It is divided into three parts. The first relates to the Breeds of Sheep, with their Origin and Ancient History—the second to the Structure and Economy of the Sheep—and the third to the Diseases of the Sheep. We here present our readers with a valuable extract from the last division of the work, on the subject of the most destructive diseases to which the sheep is liable. Although it has not yet, from the drier nature of our climate and herbage, prevailed in this country, to the extent it has done in England and some other countries, we are satisfied that it has carried off many flocks, though the owners have been generally totally ignorant of the name and nature of the disease:

THE ROT IN SHEEP.

"The first symptoms attending this disease are by no means strongly marked; there is no loss of condition, but rather apparently the contrary; indeed, sheep intended for the butcher have been purposely cothed or rotted in order to increase their fattening properties for a few weeks, a practice which was adopted by the celebrated Bakely. A want of liveliness and paleness of the membranes generally may be considered as the first symptoms of the disease, to which may be added a yellowness of the caruncle at the corner of the eye. Dr. Harrison observes, "when in warm sultry and rainy weather, sheep that are grazing on low and moist lands feed rapidly, and some of them die suddenly, there is fear that they have contracted the rot." This suspicion will be further increased if a few weeks afterwards the sheep begin to shrink, and become flaccid about the loins. By pressure about the hips at this time a crackling is perceptible now or soon afterwards, the countenance looks pale, and upon parting the fleece the skin is found to have changed its vermillion tint for a pale red, and the wool is easily separated from the pelt; and as the disorder advances, the skin becomes dappled with yellow or black spots. To these symptoms succeed increased dulness, loss of condition, greater paleness of the mucous membranes, the eyelids becoming almost white, and afterwards yellow. This yellowness extends to other parts of the body, and a watery fluid appears under the skin, which becomes loose and flabby, the wool coming off readily. The symptoms of dropsy often extend over the body, and sometimes the sheep becomes *chockered*, as it is termed—a large swelling forms under the jaw—which, from the appearance of the fluid it contains, is in some places called the watery poke. The duration of the disease is uncertain; the animal occasionally dies shortly after becoming affected, but more frequently it extends to from three to six months, the sheep gradually losing flesh and pining away, particularly if, as is frequently the case, an obstinate purging supervenes.

With regard to our remedial measures, little satisfactory matter can be offered. There are few drugs which the laboratory can supply but what have been tried and found wanting; and though salt has appeared to have had more effect on it than any thing else, it must be confessed that hitherto medicine has offered no remedy for this formidable and destructive disease. Prevention must be our chief aim, and it is satisfactory to know that much can be done by means of extensive and general draining; and it is hoped that before long, by the aid of the legislature and the conjoint energy and capital of both owners and occupiers of land, the system will be adopted almost universally, by which alone this disease is likely to be controlled or eradicated; and at the same time increased labor employed on the land, and more abundant crops obtained from the bounty of nature.

It appears that, whether as a preventive or as a cure, salt has a more powerful influence over this disease than any other remedy. Its presence preserves even wet pastures from the disposition to give the rot, for it is well known that salt marshes are free from danger. In what manner salt thus operates it is difficult to explain. The blood in this disease is in a state of unnatural dilution—it is deficient in its fibrous and coloring principles; now, whether salt, which is a combination of chlorine and soda, acts by restoring some portion of those salts of which the blood is deficient, or whether it is prejudicial to the vitality of the flukes and the eggs, or whether it acts by the antiseptic power which belongs to chlorine, we cannot tell, though its influence over the disease is generally acknowledged.

Our own advice as to remedial treatment may be summed up in a small compass. The sheep should be removed from the unsound pasture as soon as possible, either to a salt marsh or the driest pasture that can be found; as much salt may be given as the animals will take with their food; to this the sulphate of iron may be joined. Half a drachm daily for each sheep, with the same quantity of ginger, may be given in nourishing gruel. An aperient should be given once or twice during the treatment, and may consist of one or two ounces of sulphate of magnesia, or a large table-spoonful of common salt dissolved in warm gruel or water. Food should be given in as nutritious form as possible; and a pint of beans daily will be an excellent diet with good hay on sound pasture.

Though turneps cannot be considered as a cause of rot, yet from the superabundance of water they contain, they are highly prejudicial to sheep that are affected with the disease, particularly if taken whilst a hoar-frost is on them. Calomel has been strongly advised, but the recomenendation, as far as I am aware, has not been backed by any successful cases. If tried by way of experiment, about five grains daily, with four of opium, supended in thick gruel, may be repeated once a day for the space of a week at a time.

PHILOSOPHY OF WOOL.

Mr. Foster of the Tennessee Agriculturist, and a correspondent of the same paper, M. R. Cockrill, Esq. object to the theory advanced by our correspondent, p. 156, on the influence of temperature on the growth of wool. As it is a subject of much importance, and one upon which the light of experience is needed, we copy Mr. C.'s remarks:

"Messrs. Editors—I observe in the May number of the Albany Cultivator, page 156, Mr. L. A. Morrell's

Philosophy upon Wool; he would bring you to the conclusion, that warm climates would not produce fine wool. As wool growing is at present becoming a matter of importance, and will finally be more so, to the American people, than any other one article; therefore, it is requisite that all the light should be given on the matter, to prevent improper conclusions. It is my opinion, that a low latitude, say 32 deg. north, is far better than the northern States for growing wool. I have learned that the best situation for sheep to maintain true health, and therefore grow the most even and uniform fleece, is where they live all the time on suitable succulent food. Mr. Morrell states, that you find the largest part of the fibre directly after shearing, which is true; and he attributes it to heat; I think it is caused by the great effort, when the animal is stripped, to re-produce his natural covering. A more rapid growth is always discovered, when all animals shed their coats; and the same is the case with sheep when they are stripped of theirs—and the largest part of the fibre is then produced, and not in the great heat of summer as he would have you to conclude from his philosophical theory. If you leave the fleece upon the fine wooled sheep more than one year, they do not shed, if they remain healthy; but the size of fibres is not increased, but on the contrary, it is weak or tender as long as left on, and small in fibre. The animal must, of course undergo great heat; his philosophy, therefore, would bring you to the conclusion that the fibre would be enlarged, and the fact is the reverse. I state that latitude 32 deg. is the true wool region, because there they can live all the time upon succulent food, which, in my opinion, makes the true uniform soft staple of wool, suitable to the manufactory of the best broadcloths. There is much country in the United States that is well suited to produce fine wool; but it can, of course be produced to greatest advantage where the sheep can graze all the time. I believe much more depends upon the food than the climate; and no doubt the true cause of traveling the sheep in Spain was to sustain them; and grazing them all the time, agrees with my philosophy or experience. The best and softest part of the fleece is grown in the spring just before shearing, when the grass is most succulent and inviting; but let it remain until there is too much fleece to support, and the wool-forming qualities are not sufficient to grow and support the life of the fleece. Mr. Morrell says the heat or warm weather opens the pores of the skin, and larger fibres are therefore formed. True, it does of all animals; passing off heat from the body, I think, is different from that of producing covering. I find by examination, that the fibre grown in June, is finer than that which is produced directly after shearing, which was done last of April, in mild, pleasant weather. I have been carefully collecting samples of the best wool I could procure, either grown in America or Europe; and I think the best wool I have ever seen, I grew in Mississippi about latitude 32 deg. north. If climate, as Mr. Morrell thinks, and that a cold one, is the only country for producing fine wool, why is England not growing of it for her factories. I do hope Mr. Morrell will examine this subject farther, and give the country his experience. I assert, that the State of Tennessee can grow better wool than Vermont, or any of the northern States, provided the proper stock of sheep be procured—and of course much cheaper, as our winters are about 100 days to feed, and theirs 150 to 180 days, and lands much cheaper. I would be pleased to furnish Mr. Morrell, or any other northern flock-master, a sample of wool grown in our hot climate; then they can compare for themselves; and it is by proper comparisons that we come to correct conclusions. I do hope that Mr. Morrell, and all others, may construe my remarks as trying to add something to this truly important matter, wool-growing. MARK R. COCKRILL.

Near Nashville, June, 1844.

PRACTICAL RECIPES.

From the United States Receipt Book

BURNT RHUBARB IN DIARHÆA.—It may be useful to know the value of burnt rhubarb in diarhæa. It has been used with the same pleasing effects for more than twenty years. After one or two doses, the pains quickly subside, and the bowels return to their natural state. The dose is from five to ten grains. The manner of preparing it is to burn the rhubarb powder in an iron pot, stirring it until it is blackened; then smother it in a covered jar. It loses two-thirds of its weight by the incineration. It is nearly tasteless. In no one case has it failed where given.

TO EXTRACT THE ESSENTIAL OIL FROM ANY FLOWER.—Take any flowers you like, which stratify with common sea-salt in a clean earthen glazed pot. When thus filled to the top, cover it well and carry it to the cellar. Forty days afterwards, put a crape over a pan, and empty the whole to strain the essence from the flowers by pressure. Bottle that essence, and expose it four or five weeks to the sun and evening dews to purify. One single drop of that essence is enough to scent a whole quart of water.

RASPBERRY SYRUP.—To every quart of fruit add a pound of sugar, and let it stand over night. In the morning, boil and skim it for half an hour; then strain it through a flannel bag, and pour it into bottles, which must be carefully corked and sealed. To each bottle add, if you please, a little brandy, if the weather is so warm as to endanger its keeping.

RASPBERRY JAM.—Take one pound loaf sugar to every pound of fruit; bruise them together in your preserving-pan with a silver spoon, and let them simmer gently for an hour. When cold put them into glass jars, and lay over them a bit of paper saturated with brandy; then tie them up so as carefully to exclude the air.

TO EXTRACT IRON MOULDS.—Rub the spot with a little powdered oxalic acid, or salts of lemon and water, let it remain a few minutes and rinse in clean water.

PREMIUM CHEESE.—For a cheese of 20 pounds, a piece of rennet about two inches square, is soaked about twelve hours in one pint of water. As rennets differ very much in quality, enough should be used to coagulate the milk *sufficiently* in about forty minutes. No salt is put into the cheese, nor any outside during the first six or eight hours it is being prepared; but a thin coat of fine Liverpool salt is kept on the outside during the remainder of the time it remains in press. The cheeses are pressed forty-eight hours, under a weight of seven or eight cwt. Nothing more is required but to turn the cheeses once a day on the shelves.

TOMATO CATSUP.—To a gallon skinned tomatoes add 4 tablespoonfuls of salt, 4 do. black pepper, half a spoonful allspice, 8 red peppers, and 3 spoonfuls mustard. All these ingredients must be ground fine, and simmered slowly in sharp vinegar for 3 or 4 hours. As much vinegar is to be used as to leave half a gallon of liquor when the process is over. Strain through a wire-sieve and bottle, and seal from the air. This may be used in two weeks, but improves by age, and will keep several years.

TO PRESERVE APPLES, PEARS, &c.—Take apples or pears, and peel them, then cut them into eighths, observing to extract the core; dry in a kiln or oven until quite hard. In this way fruit is kept in the United States for two or three years. For use, wash the fruit in water, then pour boiling water on it, let it stand for a few minutes and use it as fresh fruit. The water forms an excellent substitute for fresh juice.

BUTTER—Is improved by working the second time after the lapse of twenty-four hours, when the salt is dissolved, and the watery particles can be entirely removed.

BLACKBERRY SYRUP.—We are indebted to a friend for the following receipt for making blackberry syrup. This syrup is said to be almost a specific for the summer complaint. In 1832 it was successful in more than one case of cholera.

To two quarts of juice of blackberries, add one pound loaf sugar, $\frac{1}{2}$ oz. nutmegs, $\frac{1}{2}$ oz. cinnamon, pulverised, $\frac{1}{2}$ oz. cloves, $\frac{1}{4}$ oz. alspice, do. Boil all together for a short time, and when cold, add a pint of fourth proof brandy. From a teaspoonful to a wine glass, according to the age of the patient till relieved, is to be given.

CURE FOR LOCKED JAW IN HORSES.—It is said that pouring water along the back from a watering pot, for a considerable time without intermission, will effect a cure. —*Selected.*

CLOVER AS A FERTILIZER.

"S. W." in the N. Genesee Farmer, thus sums up the arguments in favor of plowing in clover:

"Chemistry tells us that a green crop of clover is the cheapest fertilizer for the following reasons:

1st. The stalks and leaves of clover contain according to their weight, about 5 times as much nitrogen (the magic wand of manure,) as herds grass or most other green crops.

2d. The long tap root of the clover brings up from the sub-soil below the reach of the plow, those substances which are wanted in vegetation, retaining them in the leaves and stems of the clover to be given out when plowed under as food for the growing wheat.

Lastly, large masses of the broken roots of clover remain in the ground; these roots are worth, as a manure, according to Boussingault, about four times their weight in stable dung."

STOCK SUBSCRIPTION.

IN consequence of the increased demand for the *new and improved* article called *Poudrette*, made by the Lodi Manufacturing Company, and the prospect in future of a large yearly demand for the article. the Directors of the Company, *to increase the working capital*, have ordered the books of subscription to the stock of the company, under the 6th section of the act of incorporation, to be opened for an additional capital of $10,000, under the direction of the subscriber, as President of the said company.

Notice is hereby given that the books of subscription to the stock of the company, called the *reserved stock* under the 6th section of the act incorporating the company, will be opened at the office of the company, No. 43 Liberty-street in the city of New-York, on Monday the 2d day of September 1844, at 10 o'clock in the forenoon of that day, and will continue open from day to day, until the said stock shall be subscribed for.

The directors have stipulated that an annual dividend in *Poudrette* of 50 bushels to each share, for the term of five years shall be delivered to such shareholders: and after the period of five years to divide equally with the other stockholders. No person is permitted by the act to subscribe for more than 5 shares: and the sum of $100 a share is to be paid at the time of subscription. The *first dividend* on this stock, to be paid in December, 1844.

ANTHONY DEY,
President of the Lodi M. Co.

N. B. Any person at a distance from the city of New-York, wishing to subscribe for from 1 to 5 shares of the stock, may address a letter to the President, authorizing him to subscribe in the name of the writer: and may remit the money as soon thereafter, within a reasonable time, as he can with security to himself, on the receipt of which the certificate will be furnished. A pamphlet will be furnished gratis, containing all necessary information, by applying to the President, post paid. The price of Poudrette per bushel to stockholders, is only 12 cents.

New-York, July 17, 1844.

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to J. OAKLEY,

Oct. 1.—tf. No. 75 Nassau street, New-York.

PROUTY & MEARS'

Patent Cente Daught Self-Shapening Plows

OF various sizes and prices, from $4,50 to $13 each, with an extra point and share. Wheels will be attached when required. These plows are now believed to be the most perfect plows in use. They are strong, and can be kept in repair at a small expense. Among the premiums which have been received for these plows the following may be named: at Worcester $100; Boston $20, and a gold medal; New-York a gold medal; from the Philadelphia Agricultural Society $10; at Wilmington, Dela., first premium; at Govanstown, Md, silver cup; at Prince George, Md., silver spoon. Also Subsoil Plows at 6, 8, 10 and 12 dollars each. For sale wholesale and retail at the Seed and Implement Ware-house, No. 176, Market-st., Philadelphia, by m. D. O. PROUTY.

BEMENT'S AMERICAN HOTEL,

No. 100, *State-street, Albany.*

THE subscriber most respectfully announces to his friends and th public generally, that he has taken a lease for a term of years, the American Hotel, No. 100, State-street, Albany, which has been thoroughly repaired, completely renovated, and newly furnished throughout; and in quality of beds, cleanliness of rooms, will compare with any other establishment in the city.

In location, this house has many advantages, being situated in the centre and on one of the most beautiful and airy streets in the city; within a few moments walk of the Eastern and Western Rail-Road depots, and the landings of the steam-boats; about midway between the Capitol, City Hall, public offices, the banks, post-office, and business parts of the city, renders it very convenient for the man of business.

The subscriber places much reliance on the continuance and support of the *Agriculturists* throughout the union, who may visit the city, and pledges himself to spare no exertions, to render their stay agreeable, should they favor him with their company.

Three Hills Farm will be carried on as usual, under my own super intendance, by a careful manager, and the breeding and rearing im proved stock, will be continued as heretofore. C. N. BEMET.

Albany, July 1. 1844.

GREAT SALE OF ELECTORAL SAXON SHEEP.

THE undersigned will sell at vendue the two flocks of *Pure Electoral Saxon Sheep*, belonging to the estate of the late Henry D. Grove, as follows:

1. That at Grainger, Medina co., Ohio, consisting of about 400 sheep, on the farm now occupied by them, on the 30th of *September next.*

2. The home flock, at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th of *October next.*

A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool from which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with of equal fineness. SAM'L LAWRENCE.

Lowel, April 9, 1844."

Terms of sale, cash.—Reference, Sam'l Lawrence, or either of the subscribers.

Buskirk's Bridge, April 20, 1844.

ELIZA W. GROVE,
W. JOSLIN,
myl.—5t S. A. COOK.

FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at his long established Seed Store, a supply of the best quality and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, Red Top, or *Herd's Grass, Orchard Grass,*
Lucerne, or *French Clover, White Clover,*
Trefoil, Kentucky Blue Grass, &c. &c.

Also, the different varieties of Wheat, as White Flint, Red Chaff, Mediterranean, and English—for sale in lots to suit purchasers at moderate prices, by ISRAEL RUSSELL,

Feb. 1, 1844.—mar. oct. 26 Front-street, New-York

N. B. The following description of some superior English Wheat sown in the month of October last, the product of which will be for sale at the above Store. is given by a respectable English farmer in the State of New-Jersey, who sowed about eleven bushels, a sample of which can yet be seen. "It is called the Uxbridge White Wheat, and is the most noted Wheat they have in England, it being of fine quality, always commands a high price, as the flour is used by the biscuit bakers in London; it is great for yielding, and puts out a much larger ear than any wheat I have seen in this country. I saw when in England, three years ago, on my brother's farm in one field, 120 acres, that yielded 40 bushels and upwards to the acre. It grows very strong, and is not liable to be laid by heavy rains. I will warrant it free from any soil whatever. I did not see in the eleven bushels, a particle but Wheat; and I have sown it on Clover seed, on purpose that there shall be nothing but Wheat; and I will put nothing in the barn with it, so as to put it beyond the possibility of a doubt of its having any thing in it or getting mixed with other Wheat, which through carelessness is often the case. I have grown a great deal of it myself in England, and know from experience that for yield and quality, there is no Wheat to compete with it. Its general weight is from 64 to 67 lbs. per bushel. It is smooth chaff, and easy to thrash, which is not always the case with smooth chaff Wheat."

CONTENTS OF THIS NUMBER.

A Day in the Country, 236.
Agricultural Papers, 239.
Apple Tree Borer, 235.
Bees and Bee Moth, 235,238, 260.
Bog Land Reclaimed, 236.
Butter, to keep sweet, 234.
Crops—in Ohio, 233—in Queens Co. 234—in England, 245.
Couch Grass, to eradicate, 236.
Cutting Bushes and Thistles, 238.
Clean Culture, 239.
Cedar Shingles, 247.
Cattle Shows this Season, 247.
Cement Cisterns, how made, 256.
Corn Stalks for Soiling, 256.
Cattle—Cows, valuable, 235, 246—Disease of, 238—Cure for Founder, 257.
Draining, 240.
Dark Ages, 244.
Foreign Intelligence, 245.
Farming on the Aroostook, 247.
Fruit, Culture of the Peach and Nectarine, 254.
Farm School, 259.
Guano—Analysis of, 245—How Applied, 238.
Haymaking, best Mode of, 252.
Household Recipes, 262.
Insects—injurious to Agriculture, 251—in Wheat, 243.
Letters from Mr. Norton, 245.
Lime on Sorrel, 236.
Lucerne, Culture of, 246.
Manures—Charcoal and Horn Piths, 234—Application of, 237—Refuse of Tanneries, Adulteration of, Lime, Composts, &c., 246.
N. Y. S. Cattle Show, 235.
Nest Eggs, 234.
Ornamental Gardening, 257.
Potatoe, the Carter, 236.
Plows—Remarks on, 257
Phosphate of Lime, &c 258.
Political Economy, 260
Poultry, Diseases of, 239.
Strawberry, Culture of, 247.
Soiling Cattle and Horses, 250
Sheep, Prolific, and Shelter for, 234—Merinoes and Liecesters, 239—Introduction of Spanish, 251—Mr. Grove's Saxony, 252—Rot in, 261—Influence of Temperature on Wool, 261
Sour Soils, 253.
The late Dr. S L. Mitchill, 248
Trees, Punishment for Injuring, 234.
Usefulness of Toads, 259.
Visit to Kinderhook, 236.
Wheat—in New-York and Ohio, 233—Large Crops, 234—Insects in, 243—Cultivated in Drills, 246.

ILLUSTRATIONS.

Figs. 65, 66—Draining, 240.
Figs 67, 68—do. 241.
Figs. 69 to 75—do 242.
Figs 76, 77—Insects in Wheat, 243.
Fig 78—Portrait of Dr. Mitchill, 248
Fig. 79—Moveable Fence, 251.
Figs. 80, 81, 82—Peach Leaf, 254.

☞ ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion.

DEVON CATTLE.

HAVING had frequent enquiries last season for Devonshire Cattle, I now have the satisfaction to state, that I can accommodate those who wish, with some good Calves, Yearlings or Two-year-olds, Bulls or Heifers. E. P. BECK.

Sheldon, Wyoming Co., July 1844.—2t.

SUPERIOR FARMS FOR SALE.

TWO superior productive farms in Rensselaer county, 2 miles from Hoosic Falls. The farms are about one hundred acres each, and so situated as to be conveniently worked as two or one farm: each having the necessary buildings, and being judiciously divided into pasture and tilled land, all recently fenced with entire new materials in the most durable manner. The land is all of the first quality, and its present state of cultivation would bear a good comparison with any land in the county. These Farms will be sold together or separate, on terms most accommodating as to price and credit. Apply to

Lansingburgh, July 16, 1844. ALEXANDER WALSH.

AGRICULTURAL IMPLEMENTS, &c.

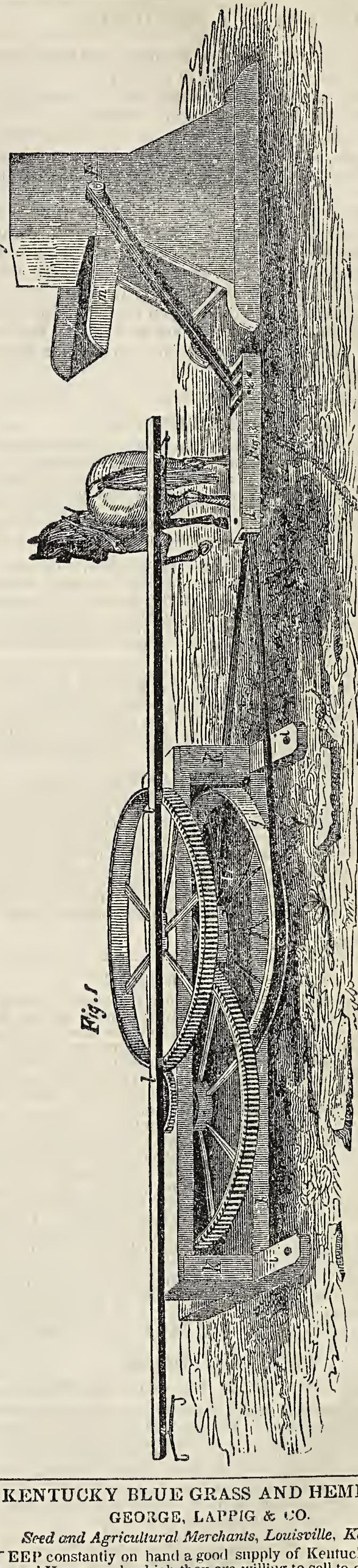
THE undersigned are Agents in this city to sell the following celebrated machines, viz:
Hussey's Premium Corn and Cob Crusher.
Dickey's " Fanning Mill.
Platt's " Portable Grist Mill.
Hovey's Premium Straw Cutter, (Spiral knives.)
Warren's " "
Hull's Stalk and Straw Cutter.

Being proprietors of the now celebrated "Warren's Improved Portable Horse Powers and Threshing Machines," for one, two and four horses, they continue to manufacture and sell them with increased success and satisfaction. Of the two horse machines, one correspondent states, "after a fair trial with barley and wheat with two horses, I can thresh in a clean and thorough manner, at least 30 bushels of the former, in 1 hour, with comparative ease to the horses; and this day, without driving them at all hard, in sixty minutes, 200 sheaves of wheat of a large size were threshed out in a clean and excellent manner, which is about 15 bushels. The straw, after threshing, is easily bundled; and as it comes out whole and unbroken, I consider these machines on that account important; and as only three hands are required to do the work well, I think the great saving of labor such an item as to make them what is much needed by many of our farmers in this section of country."

L. BOSTWICK & Co.
Aug 1—1t. 146 Front-street, New-York

TO FARMERS, HORTICULTURISTS, &c.

GUANO.—The subscribers offer for sale 200 bags, about 220 lbs each, of this valuable and economical manure recently imported from Peru. For particulars as to its quality, uses, &c. beg reference to the Cultivator of May and June, and the June number of the Boston Magazine of Horticulture. WIRGMAN & NEWMAN
July 1—2t. 44 Front-street, New-York.



WARREN'S IMPROVED PORTABLE HORSE POWER AND THRESHING MACHINE.

The prices for these machines are very low, viz:—two horse power alone, only $50—two horse power and thresher, together, $75—one horse power and thresher, $60—four horse power machine, $80—four horse power and threshing machine together, $110. Cash payable in this city on delivery. Liberal deductions made on all machines and implements to dealers. L. BOSTWICK & CO., 146 Front-st. New-York.
(See L. Bostwick's & Co.'s Advertisement.)

KENTUCKY BLUE GRASS AND HEMP SEED.

GEORGE, LAPPIG & CO.
Seed and Agricultural Merchants, Louisville, Kentucky,

KEEP constantly on hand a good supply of Kentucky Blue Grass and Hemp seed, which they are willing to sell to eastern dealers on favorable terms. They are also dealers in Millet, Clover, Timothy, Orchard Grass, &c. july—2t.

THE CULTIVATOR.

N. ORR SC.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

VOL. I. ALBANY, SEPTEMBER, 1844. No. 9.

THE CULTIVATOR
Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

SEVEN copies for $5,00—FIFTEEN copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "THE CULTIVATOR," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

THE CULTIVATOR.

MONTHLY NOTICES.

COMMUNICATIONS have been received, since our last, from Henry Stevens, R. A. Avery, A Friend to Improvement, A Farmer's Wife, Richmond, (2) M., G. F. B., G. B. Smith, Acetosella, Henry Colman, A. J. P., W., C. D., Junius, D. P. Gardner, S., Centre Draught, J. M. Harlan, J. J. Thomas, Doubleyou, H. S. Randall, D., Thos. Affleck, C., A Subscriber, C. F. Morton, G. L. Thompson, A. R. D., W. R. Prince & Co., A Farmer, J. J. T., H. A. Parsons, D. T., (the previous letter not received.) M. D. Codding, J. P. Norton, T., D., Quere.

It will be seen by the above list, that we have received an unusual number of favors from our correspondents during the past month, for which we beg them to accept our warmest thanks. We think we may say with justice, that few publications of any kind, number so many able contributors as "THE CULTIVATOR." We refer with pleasure to the present number, in which will be found valuable papers from Rev. HENRY COLMAN, England—Mr. J. P. NORTON, Scotland—Mr. THOMAS AFFLECK of Mississippi—Dr. GIDEON B. SMITH of Maryland—Mr. A. L. KENNEDY of Pennsylvania—Mr. S. W. JEWETT of Vermont—and DAVID THOMAS, Prof. GARDNER, Col. H. S. RANDALL, J. J. THOMAS, Dr. A. L. PRIME, R. A. AVERY, and JOSIAH HOLBROOK, of this State, and about a dozen others from different sections of our country.

We are indebted to H. GREELY, Esq. for copies of his pamphlet on "Protection and Free Trade"—To J. P. NORTON, for the Edinburgh Evening Chronicle, containing proceedings of the Agricultural Chemistry Association of Scotland—To G. W. ATWOOD, London, for a copy of his Circular, and for the London Pictorial News, containing an account of the Cattle Show of the Royal Ag. Society, with numerous illustrations—To HENRY STEVENS, Esq. Barnet, Vt. for "The Caledonian," the "North Star," and a list of the Premiums of the Caledonia Co. Ag. Society—To E. C. FROST, Esq. for Premium List of Chemung Ag. Society—To J. R. SPEED, for Premium List of Tompkins Co. Ag. Society—To WILEY & PUTNAM, booksellers, New-York, for a copy of "Chemistry, as Exemplifying the Wisdom and Beneficence of God, being the Actonian Prize Essay, by George Fownes, Ph. D."—To H. O'REILLY, Esq. for a pamphlet on the "Arts, Sciences and Civilization, anterior to Greece and Rome, by R. W. Haskins, A. M."

"*C. D.*" will accept our thanks for his parcel, mailed at New-York city. Will "C. D." favor us with his address ?

SPECIMENS OF WOOL.—We have received from Col. H. S. RANDALL of Cortland, several samples of wool from his flock of Merinoes, which were noticed in our last number. They are certainly good specimens, and will be found "hard to beat." The reader is referred to another page of this paper for a communication from Col. RANDALL, on the subject of the repeated and unprovoked attacks which have been made on his flock as well as those of several other gentlemen. So far as we have learned, the public seem to have placed a proper estimate upon these attacks, which are likely to do much more injury to those who originated them, than to those against whom they are directed. Such statements as that in our last number relative to the produce of Col. Randall's flock, and that of Mr. Avery in our present number, afford sufficient evidence of the injustice of these attacks.

ANALYSIS OF INDIAN CORN.—We are gratified to learn that we are to have a thorough analysis of several of the principal varieties of Indian corn, from the Chemical Laboratory of Prof. JOHNSTON of Durham, our correspondent, Mr. NORTON, having sent out for specimens for that purpose, which will be forwarded to him in autumn.

MERITS OF PLOWS.—We have received a communication from "*Centre-Draught*," in reference to the remarks of "J. G. B." in the August number of the Cultivator. "Centre-Draught" declares it was not his intention to offer "J. G. B." a "challenge," and says he is "at a loss to conjecture where Mr. B. obtained that idea." "Centre-Draught," however, declares his willingness to meet Mr. Bergen at any convenient place, and have "a day's trial with the plows for *love*," which the former thinks would be preferable to a contest for "*money*."

PROFESSORSHIP OF AGRICULTURE.—We are pleased to learn that a Professorship of Agriculture has been established at Amherst College, Mass., and the appointment of Professor conferred upon ALONZO GRAY, author of "Elements of Scientific and Practical Agriculture."

SHEEP HUSBANDRY.—We have had numerous applications for a work on Sheep, which we have been unable to supply from the fact that no such work as is wanted by our farmers, has as yet been issued. The English works on sheep are too expensive, and, valuable as they are, are not what our farmers need. The work on which Mr. MORRELL is now engaged, will, we doubt not, supply this deficiency. It will not, however, be ready for the press before some time in the winter.

MISSISSIPPI.—We are greatly indebted to our friend, J. J. M'CAUGHAN, Esq. of Mississippi City, for his continued efforts to promote the circulation of the Cultivator in that section of country. In our next, we will give such information as we can collect on the subject about which he inquires in his letter of Aug. 3, from which we make the following extracts:—"You can form but little idea of the wretched state of agriculture in this part of our State; but it is improving, and has been for two or three years, and I have little doubt will continue to do so until in ten or fifteen years we can boast of as much advance in that way as any part of the United States. True, we have a poor soil, but plenty of manure convenient and cheap; a mild, pleasant and healthy climate; all the advantages of sea and land, fresh water and salt, and two of the best markets in the world, New-Orleans and Mobile. I have just taken the 4th crop of grapes off vines of which I planted the cuttings in January 1839, every crop a good one, which I think is conclusive evidence that we have a fine country for vines, &c. Indeed almost every variety of fruit does well here."

INTRODUCTION OF NEW VARIETIES OF FRUIT.—We have been furnished by Messrs. WM. R. PRINCE & Co. of the Linnean Garden and Nurseries, Flushing, with an invoice of "estimable varieties of fruits," sent out to them by the London Horticultural Society in March last, and since extensively propagated by them. The list embraces, fourteen varieties of Apples—sixteen of Pears—eight of Plums—four of Cherries—three of Grapes—four of Raspberries—five of Currants—five of Strawberries, &c. &c. We rejoice at every addition to our choice fruits, the increasing demand for which will doubtless abundantly remunerate our nurserymen for any expense which may be incurred in their introduction.

BUFFALO NURSERY AND HORTICULTURAL GARDEN.—We are indebted to our old friend, BENJ. HODGE, the well known proprietor of this establishment, for a copy of his Descriptive Catalogue of Trees, Plants, &c., just issued, which will be found useful to all purchasers. In times past, Mr. Hodge used to be a contributor to our paper, and we, as well as our readers, would be glad to hear from him again.

CENTER-DRAFT PLOWS.—G. L. Thompson, Esq. of Esopus in this State, thinks, from what he has seen in the Cultivator, that this plow is just the thing that is wanted in his neighborhood, and inquires whether they can be had in New-York or Albany, as they cannot send to Boston for them, and also their price. The manufacturers of them would do well to advertise their price, and where they can be had, in the Cultivator.

GEOLOGICAL SURVEY OF NEW-YORK.—In answer to the inquiry of "D. T." and others, we would state that we are informed that owing to a defect in the law passed last winter, the volumes of this work will not be sent to the county treasurers for sale, as was expected. A law was passed in 1842 or 3, directing the Secretary of State to make arrangements for the sale of these volumes through the booksellers, at $4.00 per vol. Under this law a contract was made with certain publishers, who were supplied with the first six volumes. The law of last winter made an entire different disposition of the work, directing it to be sent to the County Treasurers, and to be sold at $1.00 per vol. The previous law, however, was not repealed, nor was any provision made for supplying those who had purchased the first six volumes. The consequence is, that no sales of the work can take place until further legislation is had on the subject.

THE COTTON CROP—LOSS BY THE FLOOD.—We make the following extract from a private letter from our friend, C. A. THORNTON, Esq. of Wilkinson county, Mississippi, dated Aug. 5:—"Our crops of cotton 'in the hills,' as the country off the river is called, I think are very good; they are, I know, in this neighborhood. I commenced picking a week ago, which is earlier than usual, and if we have a favorable fall, I think my crop will yield abundantly. The loss on the Mississippi and its tributaries, is variously estimated at from 250,000 to 500,000 bales. Some medium point between the two, I presume will be near the mark. The loss of property however, beyond the cotton crop, in houses, fences, stock of all kinds, and the whole of the corn crop, &c. is very immense. Very many families have not only been turned out of house and home, but every means of subsistence has been swept away by the mighty flood; and what makes the matter still worse, the waters not having subsided, there is no possibility of their making any corn before another year."

MEDICO-CHIRURGICAL REVIEW, edited by JAMES JOHNSON, Physician extraordinary to the late King of Great Britain, and HENRY JAMES JOHNSON, Lecturer on Anatomy at the School of St. George's Hospital, &c. Republished by R. and G. S. WOOD, New-York. The design of this publication, is to furnish concentrated practical information relating to Medicine, Surgery, Midwifery Pharmacy, &c. It is issued quarterly. The July number has been received; as usual, it is filled with interesting and valuable matter. Terms, $5 a year in advance.

☞ Those wishing to purchase a valuable farm in one of the most delightful situations in our State, are referred to the advertisement of Mr. Cox in this paper.

☞ The article on the "Cultivation of Fruit," in "The Agriculturist," for August, should have been credited to "The Cultivator"—also the article on the "Culture of the Strawberry," in the Cin. Atlas of Aug. 15—also "Cutting Bushes," &c. in the Chambersburgh Times of Aug. 19.

☞ Mr. SANFORD'S buck Consul, figured in this paper, will, we learn, be exhibited at the State Fair at Poughkeepsie.

HONORARY.—At a meeting of the Indiana Horticultural Society, at Indianapolis, June 29, A. J. Downing, J. J. Thomas, Alexander Walsh, and R. T. Underhill, of this State, were, on motion of Rev. Mr. Beecher, elected honorary members of the Society. At a recent meeting of the Cleveland Horticultural Society, the same honor was conferred upon David Thomas, A. J. Downing, and J. J. Thomas.

THE AGRICULTURIST ALMANAC.—We have a very pretty Almanac with this title, from the office of the Tennessee Agriculturist, Nashville, edited and illustrated by CHARLES FOSTER.

"CHEMISTRY, AS EXEMPLIFYING THE WISDOM AND BENEFICENCE OF GOD, by GEORGE FOWNES, Chemical Lecturer in the Middlesex Hospital Medical School."—This work is a *prize essay* on the subject indicated by its title. It is arranged under the following heads:—The Chemical History of the Earth and the Atmosphere. The Peculiarities which characterize Organic Substances generally. The Composition and Sustenance of Plants. The Relations existing between Plants and Animals. In the execution of this work, the author has well accomplished his object, and has furnished a treatise most agreeable and instructive, not only in a physical, but also in a moral and theological view. New-York: WILEY and PUTNAM.

NIGHT SOIL.—Our farmers might add materially to their supply of manure, by constructing their privies so as to enable them to make use of their contents. A gentleman from Connecticut informs us that he mixed his night soil with swamp muck, adding a small quantity of lime and ashes, and made manure enough for five acres, which he planted to corn, and that the crop is equal, if not superior, to any one he has seen.

THE HESSIAN FLY, &c.—I was very much pleased with the article in the August No. of the Cultivator, on the wheat midge and Hessian fly. The writer of it is perfectly correct in every particular of the natural history of these insects. I am the more pleased with the article on account of its furnishing another instance of the progress of truth and the dispersion of error. There are few subjects of agricultural discussion that have elicited more attention than this: and I know of scarcely one that has caused the propagation of so many errors of fact, and unsound reasoning. A year or two since I endeavored to contribute my mite to the propagation of information on this subject, through the medium of the American Farmer, and am glad to find that others are doing likewise. *

TO PREVENT TEA-KETTLES COATING WITH LIME.—Ellis' Housekeeping made Easy, which by the way is quite unsuited to the republican simplicity which *ought* to prevail on this side of the big waters, whither the authoress has never yet come, contains the following really valuable preventive of the incrustation of lime on the inner surfaces of tea-kettles, and every thing else of the kind, so often the annoyance of every clever, well-behaved woman:—"Put the shell of an oyster within the vessel whenever it is used, and the lime, instead of adhering to the sides of the vessel, will all be deposited on the oyster shell, which thus forms a nucleus for its attraction. Tried by one of the first women in the world, and found infallible." J. J. T.

Foreign Correspondence.

LETTER FROM MR. COLMAN.

London, July 19, 1844.

Luther Tucker, Esq.—Dear Sir—I have seen with poignant regret the annunciation of the death of Willis Gaylord, Esq., your colleague in the editorial department of your justly valued and widely circulated journal. If the length of a life is to be measured by its usefulness, his certainly greatly exceeded the common lot. His labors have been abundant, and of eminent utility. To an intellect of uncommon power, he united a corresponding thirst for knowledge. His attainments in science and useful knowledge were unusual; and with these in an eminent degree were associated a refined taste, a clear discernment of the practical and the useful, and a most happy and agreeable talent of communicating to others, what he possessed. He has contributed immensely in the country, to the cultivation of a taste for rural pursuits and pleasures, and for the promotion of agricultural improvement. I wish very much that a selection could be made for publication from his writings, as it would form a book not only of delightful reading for the parlor, but of admirable utility for the public schools; and I should suppose that the Commissioners for forming District and School Libraries, for I believe a Board of that kind exists in the State of New-York, would encourage the publication.

Mr. Gaylord affords one of those beautiful and remarkable examples, which we sometimes meet with, of men contending with heroism against difficulties, and nobly triumphing, where others would despair or sink in idleness and useless repose. It is well known that the diamond in his instance, was set in a very inferior casing: that his person was so greatly deformed as to prevent his going much abroad or mingling much in society. Yet how superior was the tenant to the dwelling; his powerful and well endowed mind, to his weak and deformed body. The very fastening down of the person, appears only to have made the mind more active, more impatient of restraint, more bold and excursive in its flight. Happy is it when our friends can thus depart, giving us nothing to regret but their removal from our intercourse and their cessation from their useful labors; leaving behind them a track luminous with the beauty of virtue and beneficence, and presenting an example in the highest degree encouraging to useful industry, to intellectual cultivation, to perseverance in every struggle against difficulties, and to a life humbly, quietly and conscientiously devoted to doing what good we can, by the means which Heaven affords in the place where it has placed us.

I want through you, my dear sir, to assure my friends how much obliged I am by their kind reception of my First Report, and to express my regret that I have not been able as yet to give them more of the result of my labors. I bespeak their patience. I assure them I am not idle or negligent; and if Heaven spare my life, in due season they shall hear from me as fully as they can desire. I feel it due to them as well as to myself, to make my work as little unworthy of their acceptance as I can possibly render it; but they would not have me recite my lesson before I have learnt it. Even a moderate share of self esteem may persuade a man to think his labors of much more importance than they are; but surely in this case, a proper and grateful respect, which I deeply feel for my patrons, should induce me to perform my work as well as I can, and not to give them what would be the result only of crude and partial observation. I cannot fix any definite time for the appearance of my Reports; but I have no doubt of bringing them very nearly within the time of two years, which was assumed for the enterprise.

I want through you to say another thing to many personal friends to whom I designed and ought to write. I hope to redeem my reputation with them presently; but they will make some allowance for my constant engagements, for a very extensive correspondence both at home and here, and for a mind harrassed with a continual succession of exciting objects. One more thing I am sure I may assume, that as I never desire to remember an enemy, I am equally certain never to forget a friend.

Yours truly, Henry Colman.

LETTERS FROM MR. NORTON—No. III.

Lab. of Ag. Chemistry Association,
Edinburgh, July 29, 1844.

Messrs. Editors—I have lately returned from an excursion through the north of Scotland, with Prof. Johnston. One of the ways by which the Agricultural Chemistry Association seeks to diffuse knowledge is through public lectures. Prof. Johnston, as the officer and representative of the Association, is allowed to accept invitations from those places where a desire for instruction is aroused. In pursuance of this branch of his duties, he has been travelling for the last two weeks, and has delivered lectures in four of the Highland towns.

It would give me much satisfaction to give extended reports of these lectures, admirably adapted as they are to the wants of the agriculturist, but each would require a separate letter, and I must therefore content myself with a mere sketch of the proceedings.

Our first point of destination, was Inverness. This town, having about 12,000 inhabitants, is situated at the head of the Moray Firth, and is in effect the capital of the Highlands. Prof. Johnston was invited there at this time particularly, because it was the period of the great Wool and Sheep market for the north of Scotland. The quiet of Inverness is for a few days effectually disturbed by a concourse of buyers and sellers; the former from the Lowlands and manufacturing districts of England, and the latter from the hills, where some of them can count their 30 and 40,000 fleeces. A singular feature of this Fair is, that although business, sometimes amounting to £300,000 is transacted, not a sheep or fleece is visible. The character of each man's flock is known, and false representations would ruin him ever after.

The Professor delivered three lectures at Inverness, giving, as far as possible within so limited a space, a sketch of the science of Agricultural Chemistry, in connection with instruction upon various important practical points with which it is more or less connected. The first lecture was upon the constitution of soils, and the methods of improvement. Under this head was included a full and most satisfactory argument upon drainage; a simple and concise reference to the principal constituents of fertile and barren soils, and the advantage to be derived from geological knowledge.

The second, was upon the inorganic elements of plants, and included naturally, manures, as the means of restoring or supplying these elements to the soil.

The third, brought into view organic substances. The beautiful analogy between the composition of the soil, the food, and the animal was also explained, and much light thrown upon the subject of feeding.

Though the business of the Fair was engrossing, a respectable audience daily assembled, and listened with marked attention. An enthusiasm was aroused, which showed itself at every public meeting. A breakfast was given to Prof. Johnston at which he introduced the project of an Agricultural newspaper for Inverness, Ross, and the adjoining counties. It was carried by acclamation, an editor at once selected, and a long subscription list procured before noon.

Our next stopping place was at Nairn, the county town Nairnshire. Two lectures were delivered there to a full audience. Some of their peculiar obstacles to successful cultivation were spoken of, and from the satisfied appearance of many a shrewd face, it was easy to see that a new path was opening before them.

We then proceeded to Forres in Elginshire, where but one lecture was given. It was sufficient to arouse the thirst for more, and the stout, hardy farmer who presided, at the close said, "he was sure it had done them good."

The last place was Keith, in Banffshire. A large number of people were together, some coming from a distance of eight & ten miles. The lecture occupied more than two hours, yet I heard one of the farmers say, "he would gladly have listened two hours more." Keith being in a high bleak situation, the advantage to be derived from belts of plantation, to shield the land from the cold wind and from draining, was dwelt upon, very evidently with good effect.

This tour has most completely confirmed my previous impressions as to the immense increasing influence which the Agricultural Chemistry Association, yet in its infancy, has exerted and will continue to exert on the prosperity of Scotland. My short sketch of our operations and progress, is not more incomplete and general, than was the notice which Prof. Johnston was compelled to take of many most important branches of his subject. As he said, "it was but a commencement," yet that commencement opened to view a fair field beyond; it awakened inquiry, it staggered old prejudices, it gave the farmer a new and elevated view of his favorite pursuit. Thus aroused and encouraged, he will not be content with the mere glimpse afforded him; he will have recourse to books, and all sources of information; his example and success will stimulate others, and thus, as is now the case here, the work will go on with great rapidity. One of the most intelligent and most successful Lothian farmers, expressed in my hearing his firm conviction, that had it not been for the introduction of portable manures, and the suggestions of chemical science, the rents in Scotland must before this have been lowered. Another gentleman after reading Prof. Johnston's Catechism of Agricultural Chemistry, wrote to thank him for having *given him a profession.*

The Association originated with tenant farmers, and has by them principally been sustained; though some of the proprietors have shown their appreciation of its influence. It has thus a thoroughly practical character, and its officer, Prof. Johnston, from the scrupulous accuracy of his statements, both in public lectures and in his works, continually increases its reputation. The present visit has been to a part of the country where it was but partially known. A large number of new subscribers was obtained, letters asking for information, and soils and manures for analysis are already coming in, orders for books have been sent on, and all things show that an awakening has taken place.

These improvements have been and are going on among the tenantry, who as you know compose the great mass of Scotch and English farmers, and among whom it must be always a painful thought to the improver that these fruits of his toil may at the end of his lease, be the cause of an increase in his rent, or go into the hands of a stranger. What may we not therefore expect when such institutions are founded on our own soil, where the farmer being a proprietor, feels that in reclaiming and fertilizing the soil he is not only increasing his own store, but laying up a rich inheritance for his children also. Very truly yours,

JOHN P. NORTON.

FOREIGN ITEMS.

By the Acadia, which arrived at Boston on the 18th ult., we received our usual files of foreign papers.

THE CROPS, &c.—The grain crops in England and Ireland are likely to come in pretty well, notwithstanding the fears which had been entertained on account of the drouth. Wheat began to decline on the first of July, and is now 4*s*. to 5*s*. per quarter lower than it was four weeks ago.

The "Banker's Circular" says—"It appears to us that the cultivation of wheat has been progressively increasing ever since 1839, and that a greater breadth of land has been applied to the growth of that grain in the British Islands in 1844, than in any preceding year." The same circular further observes, that "a good wheat harvest in England, is usually followed by a good wheat harvest in most parts of Europe. The culture of wheat has been very much stimulated and extended in all those countries from which we have been accustomed to draw our supplies."

From the circular of GEO. W. ATWOOD, dealer in American provisions, &c. London, we learn that there is but little to encourage the shipment of flour from this country, even at the low prices it is now selling here. American pork is said to be firm at prices varying from 40s to 50s. per bbl. in bond. Money is abundant at 1¾ to 2½ per cent. For cotton, the demand was steady, at a trifling advance.

The papers contain accounts of the late Show of the Royal Ag. Society at Southampton. The Mark Lane Express says it was not equal as a whole to the preceding Shows of the Society, though the remark is intended principally in reference to the exhibition of animals—the show of implements was thought superior. The number of persons that visited the show-yard on Thursday of the exhibition, was *thirty thousand.* The total receipts for admissions during the Show, were upwards of $12,000.

LETTING AND SELLING RAMS.—Mr. Jonas Webb, the celebrated breeder of South Downs, held his annual letting of bucks on the 16th July. The services of seven of them were sold at auction for the season, at an average of £31 each—the highest price obtained for any one, was £76, which was paid by the Duke of Richmond.

Mr. Wm. Hewer, the eminent breeder of improved Cotswolds, held his annual sale of rams on the 17th July. A large company was in attendance. Forty-four sheep let and sold, averaged £11; the ten highest priced ones, averaged above £21 each. Several offers, some of which were said to be as high as 80 guineas, were made and refused for a young buck intended by Mr. Hewer for the use of his own flock.

ROYAL PRESENTS.—Prince Albert has presented the Emperor of Russia, with a Yorkshire stallion, valued at 600 guineas, a Durham bull valued at £300, and a full blooded Leicester buck.

POISONED SHEEP.—A flock of sheep has been poisoned by eating "wake-robin," (*Arum maculatum.*) They were induced to eat the plant from its remaining green in a field which was burnt up by the drouth.

NEW WAY TO MAKE BUTTER.—The wife of a farmer saves herself the trouble of churning, by the following contrivance: She ties up her cream in a linen cloth, over which she places a piece of print, and buries the whole in a damp place in the garden for 24 hours; she then takes it up, and turns the cream (which by this time is in the shape and consistency of a pudding) into a bowl, and by stirring it with a wooden spoon, the butter quickly separates from the butter-milk, and is said to be sweeter than that produced by the ordinary method.

☞ How many pounds of pork will a bushel of barley make? An English farmer says: The fatting of hogs is profitable when a pound of green bacon, when it is first dried, is worth more than the tenth part of the price of a bushel of barley, for a bushel of barley is supposed, with good management and a good breed of hogs, to produce 10 lbs. of bacon.

EXPERIMENTS IN CHEESE MAKING.—Sulphuric acid, it is said, will produce a larger proportion of curd than rennet. Professor Traill has made some experiments on this subject. He thinks, from the trials he has made, that the acid will not answer—it communicated an unpleasant taste and smell to the cheese.

AGRICULTURAL COLLEGE IN ENGLAND.—From our English papers we perceive that such progress has been made, that the establishment of this institution is considered certain. The Society, it is said, has now resolved itself into a tangible shape, and will immediately commence operations. *Port Farm*, consisting of about 400 acres, within one mile of Cirencester, the property of the Right Hon. Earl Bathurst, has been fixed on as the site for the example farm.

SOWING MACHINE.—T. Sullivan, in his "Sketches of East Lothian Husbandry," published in the Agricultural Gazette, thus describes a machine for sowing grain and grass seeds.—"A machine very extensively used in this county, is that for sowing corn and grass seeds, broadcast. Its great recommendations are, the regularity with which it distributes the seed, the saving thereby effected, and in remedying the inconvenience and loss of seed arising from sowing with the hand during high winds. The machine consists of an oblong box, 18 to 19 feet in length supported upon a frame-work on three wheels. A revolving horizontal spindle, with pinions in the inside of the box, scatters the seed. Clover and grass seeds are now rarely sown by hand, this machine being peculiarly adapted for sowing such small seeds, and obviating the dif ficulty always experienced in distributing the small allowance usually given per acre, especially during winds, when from the lightness of the seeds, they are liable to be blown away." Would not such a machine be exceedingly useful in this country?

Experiment with Charcoal and Salt.—The Earl of Essex gives an account in the Agricultural Gazette, of an experiment made by him with charcoal, and charcoal combined with salt, applied to turnep-seed at the time of sowing. In the first case, the seed was mixed with twelve times its bulk of charcoal dust. In the second case, the seed was mixed with five times its weight of salt, and nine bulks of charcoal; and in the third case, the seed was put in alone. The ground was very dry and parched, but the seed where the charcoal, and the charcoal and salt, was used, came up in five days. The plants where the clear charcoal was used, however, grew much the most rapidly—where nothing was used, the plants came up badly, and after they were up, did not grow near so fast as the others. The Earl also tried the same application of charcoal with the seed of the Belgian carrot, which vegetated several days sooner than carrot seed usually does, even under favorable circumstances. He also sowed one row of turneps with double the quantity of salt above mentioned, which totally destroyed the seed. Nothing but the substances named were used, and the Earl thinks that the quick vegetation and rapid growth, was attributable to them.

Trial of Plows.—In a late number of the Cultivator, we mentioned that Mr. Colman had presented to the Council of the Royal Ag. Society, two American plows —one of which was the Centre-Draught plow from Prouty and Mears, and the other the Eagle plow from Ruggles, Nourse and Mason. These plows were tried in connexion with several English plows at the late show at Southampton. In reference to the trial, the editor of the Farmer's Magazine says,—"The contrast between the working of these trans-atlantic plows and the English ones was most striking, and was the most perfect practical refutation to the self-congratulatory remarks of Daniel Webster, who, on his return from England, stated that he had not seen any implement in England worthy of comparison with those of America. We particularly examined the work of these plows, and compared with the level and accurate furrows made by the English plow, which appeared as though cut out by a plane, were coarse, rough, and irregular. The work of the competing plows, with the two exceptions we have alluded to, was generally good, especially so, considering the state of the soil."

We know not how much justness there may be in these remarks, but would suggest that our agricultural societies test the two kinds of plows mentioned, as well as others, with the best English ones. At the late trial at Southampton, the first prize of £10 and a silver medal was awarded to Messrs. J. R. and A. Ransome. The same gentlemen also carried a prize for another plow calculated for turning furrows at an angle of 45 degrees. These Ransome plows have long been celebrated. In our Feb. No. (page 44) we spoke of one of them in possession of Mr. Noble, near Massillon, Ohio. We have witnessed the operation of that plow, and are certain that it is a very superior implement, both as regards the complete execution of the work, and its lightness of draught.

Agricultural Chemistry Association.—We acknowledge the reception of a number of the Edinburgh Evening Courant, containing an account of the last meeting of the subscribers to this association. We had prepared an abstract of the doings of this meeting, but the necessity for its publication, seems to be superceded by the nature of the contents of Mr. Norton's letter, which, it will be seen, furnishes a most interesting sketch of the progress which the Association is making, and the favor with which it is regarded by the practical farmers of Scotland.

Guano.—It would appear from Lloyd's List, that not fewer than one thousand ships have sailed from various ports in Great Britain for guano. Thus, no sooner does a new avenue for trade present itself, that it is instantly glutted.

CATTLE SHOWS THIS SEASON.

New-York.—State Fair at Poughkeepsie, Sept. 18, 19—Dutchess Co. at Washington, Sept. 12, 13—Rensselaer, at Troy, Oct. 2, 3—Chatauque, at Jamestown, Sept. 25, 26—Onondaga, at Syracuse, Oct. 2, 3—Chemung, at Havanna, Oct. 2, 3—Montgomery, at Fonda, Oct. 11, 12—Orange, at Goshen, Oct. 23—Columbia, at Hudson, Oct. 1—Erie, at Buffalo, Sept. 25, 26—Genesee, at Batavia, Sept. 25, 26—Cortland, at Homer, Oct. 2, 3—Ontario, at Canandaigua, Oct. 2, 3-Wayne, at Lyons, Oct. 28—Monroe, at Rochester, Oct. 8, 9—Orleans, at Albion, Oct. 3—Cayuga, at Auburn, Oct. 9, 10.

American Institute.—The annual Fair of the Institute commences on the 7th, and closes on the 18th October. The Silk Convention will be held on the 9th and 10th. A Convention of Farmers and Gardeners is to be held on the 11th and 12th, to take such measures as may be deemed advisable to promote their interests, and particularly to urge on Congress the necessity of establishing a National Bureau or Board of Agriculture. All Ag. Societies are requested to send delegations to this convention. Plowing Match, Oct. 15. Exhibition of Cattle, &c. on the 16th and 17th.

The Tompkins Co. Ag. Society hold their Fair at Ithaca on the 4th and 5th of Oct. Taking into view the intimate connection between the farmer and mechanic, this Society have offered a large number of premiums for the products of the workshop, such as carriages, carts, harness, saddles and bridles, chairs, axes, boots, shoes, barrels, pails, firkins, cabinet work, &c. &c. These premiums will interest the mechanics in the Fair, and can hardly fail to add materially to its interest. It would undoubtedly be good policy for most of our Ag. Societies to adopt a similar course.

Massachusetts—State Show at Worcester, Oct. 9, 10—Hampden, at Springfield, Oct. 16, 17—Middlesex, at Concord, Oct. 2.

Vermont—Caledonia, at Danville, Oct. 3.

South Carolina—State Show at Greenville, Sept. 11—Newberry, Sept. 25.

Pennsylvania—Philadelphia, Oct. 16, 17.

Ohio—Hamilton, Sept. 19, 20—Coshocton, Oct. 25.

Delaware—Newcastle, at Wilmington, Sept. 11, 12—Address by that veteran in the cause of agriculture, J. S. Skinner, Esq. of Washington City, who we are gratified to learn will be present at our State Fair.

FARMERS' CLUBS AND DISTRICT-SCHOOL LIBRARIES.

The formation of Farmers' Clubs, we consider one of the best means of eliciting and disseminating valuable information on agricultural subjects. They are becoming common in England and Scotland, and several have already been formed in this country. The meetings are held periodically—weekly, semi-monthly, or monthly, as suits the convenience of the members. Subjects of a practical nature are given out at these meetings, and each member gives his views in regard to them. Questions touching the relative value of different crops for different soils or locations—the relative profits of different animals—the soil, and mode of cultivation best adapted to different crops, are here discussed, and the experience and practice of each one is made known. By a comparison of the theories and practices thus brought forward, those which are most consistent and reasonable, can hardly fail of being perceived and adopted. An idea possessed by one, is made known to all—may be subjected to a practical test—if erroneous, it is shown to be so—if correct, its usefulness is general.

It seems to us that the District-School Libraries of this state, might form an excellent nucleus for Farmers' Clubs. A portion of the books in these libraries ought to be such as would assist the farmer in the investigation of the principles, and the adoption of the best system of agriculture. The places where these books are kept, would be proper places for holding the meetings, and the contents of the books might frequently constitute topics for discussion. We recommend these suggestions to the attention of our readers.

IMPROVING LAND BY GREEN MANURES.

It is believed by some, that the best kind of vegetable growth for turning in, in the form of green manures, is Indian corn sown broadcast. If it be intended to apply lime to the land, it would be well to do so the fall before. Then as early in the spring as circumstances will permit sow corn broadcast, say three or four bushels to the acre, and as soon as it has grown as high as it can be conveniently turned under with a deep working plow, turn it under, and immediately sow another crop in the same way, turning that under as before, but with a medium plow run crossways of the previous furrow. In the middle and southern states, three crops can thus be turned under in one season. It is believed that no system of manuring or renovation, except the heaviest application of stable manure, can compare with this plan in its results. If the land be very poor the first crop will be very light, but light as it may be it will yet add a considerable portion of the elements of vegetable nutrition to the soil; and thus the second crop will be greatly improved, and the third will be all that can be desired. It is believed that in this way four times as much improvement will be effected in one season, as can be by means of clover in three or four years. For this purpose farmers in the north should use the tall kinds of southern corn, as being of more rapid growth and furnishing vastly more matter for the soil. *

LIMING LAND.

In the application of lime to land, it seems to me that one great object is generally overlooked. All the lime intended to be applied in one season is generally spread at once, thus leaving it in a kind of stratum, instead of being, as it ought to be, thoroughly mixed with the soil. Would it not be better to proceed as follows: Suppose you intend to apply sixty bushels to the acre. First spread twenty bushels carefully over the acre of ground; then turn the soil with the heaviest, or rather deepest operating plow you have. Then spread twenty bushels more in the same way, and turn that in with a medium plow passing across the previous furrow. Then spread the remaining twenty bushels, and harrow that in, or turn it under with a light seed plow. This would effectually mingle the lime through the whole depth of the soil. Any one can see the reason of the thing and the advantages of it; the only objection to it being the labor; but that is not more than is requisite to bring the soil into the proper condition for seeding. If wheat or any small grain be intended, then the third application can be made at the time the seed is sown. I do not much like the usual plan of applying thirty bushels one year, and three or five years thereafter thirty bushels more, and so on, unless deficiency of means prevents the whole being applied the same year. The idea generally is, that, like manure, the first application is exhausted or nearly so in three or five years, and that then another application is necessary. I do not think the lime is exhausted, but the small quantity applied having been diffused through the whole of the soil by successive plowings, the soil is not sufficiently calcareous. Now if we apply the whole quantity as suggested above, the soil to its entire depth will have become charged with it; and, if enough is applied I do not believe it will be exhausted in twenty years, if then. *

BIG HEAD IN HORSES.

A correspondent, with the signature "T.," of Greenwood, Miss., wishes information on the disease in horses called "*big-head.*" We do not find this disease in any catalogue or treatise at hand, and are not aware that it is known in this part of the country. In the fourth volume of the American Farmer, a writer speaks of having cured it by running a hot iron through the swollen parts. But as little seems to be known in regard to the disease, we give the remarks of "T.," and if others are acquainted with a better mode of treatment, we hope they will communicate it.

"I presume you are acquainted with the disease—its name is peculiarly expressive, so that one could not welll be mistaken, even though he had never seen it before. It is the second horse I ever owned (out of a vast number) that hasbeen similarly afflicted. That case, I believe I cured; but the cure was almostas badasthe disease. I will give it you. After having *perforated* the enlarged part, or swelling of the bone, in several places with a brace and bit, (hole about 1-8 of an inch in diameter) without as I could perceive, any beneficial effect, I was recommended to make an incision under the skin just or near the top of the swelling, and put in 10 grs. *arsenic*, put up in thin paper, on each side of the horse's face. This I did, and you may imagine the effect produced in a day or two; the poor horse's head soon assumed a size varying but little from a flour barrel; in time, mortification of the part near where the arsenic was put followed, the whole of which, in about three month's sloughed off, and on one side taking part of the bone with it. I left the sore too much exposed, which I believe was the cause of the bone coming off. To cure it, which required a long time, I used only a greasy cotton cloth bound round the head so as to prevent it being rubbed off. This cure is *certain* I am told, but so tedious, besides being objectionable in other respects, that I will only be tempted to try it again as a last resort."

Value of Urine.—The great waste of manures, (as well as other matters,) is the crying sin of the American farmer. Even the best farmers in this section and in New-England, where greater economy is generally observed in saving manure than is generally practiced in other sections, we seldom find proper means used for the saving of *urine*, which, when carefully preserved and applied, has been proved of great value. In some parts of Europe, great pains are taken to save and apply this substance in the most profitable manner. In Holland and Flanders, it is said to have been the means of bringing much of the original sandy and sterile tracts of country, into a state of garden cultivation. The Heath and Broom which grows on the poorest soils, are encouraged, till their roots bind the loose and white sand together. These being cut, small patches of diminutive clover are induced, or a few patches of potatoes are planted, when a cow is kept. The urine is collected carefully in a small tank, or perhaps a cask sunk in the earth, and this is the nucleus from which, in a few years, a little farm will spread around. W.

Sheep of the late H. D. Grove.—The wool from these sheep has lately been disposed of at Lowell. It was sold in assorted lots, as follows :—158 lbs. at 85 cents per lb.—361 lbs. at 70 cents—538 lbs. at 62 cents—137 lbs. at 60 cents—197 lbs. at 50 cents, being an average of 68 cents per lb. for the whole. These fine sheep, it will be remembered, are soon to be sold, for the benefit of Mr. Grove's family. For time of sale, &c. see advertisement.

Hedges for the South.—Mr. Affleck, in a letter to the Planter's Banner, speaks of the Cherokee or nondescript Rose, as one of the best hedging plants for the south. He says—"It has but one objection—that it is a *vine;* and if left to itself will cover a space of from six to ten feet. It is hardy; grows readily from cuttings or seeds; forms with a moderate degree of care, a good fence in three or four years; when well grown is utterly impassible to man or beast; will bear the knife well in pruning, (which necessary qualification in a hedging plant, I fear is wanting in the Maclura,) and forms a beautiful sight all the year round, with its glossy, evergreen foliage. When in bloom, it is indeed most beautiful, with its long wreaths of snow white flowers—the whitest of all white roses. There are miles of splendid hedge of this plant in this vicinity—more than sufficient, one would think in the way of example, to have entirely abolished the unsightly, expensive rail fence, particularly in a country that must soon be void of timber. I am preparing for some miles of it, this fall—but not so extensively as I would if it were not that I am experimenting with another plant that I am confident will form better and more beautiful hedges than even the famed English Hawthorn. It is the 'Microphylla Rose,' (red) a standard, and just the plant for this purpose."

RECLAIMING WET LANDS.

August and September are the best months for reclaiming boggy and wet lands. The first object should be to get rid of the surplus water. Uplands, situated on a hill-side, or where there is some declivity, are sometimes too wet, and in many instances may be underdrained to advantage. In such cases a good mode is to dig ditches, two to two and a half feet deep, and if there are plenty of small stones at hand, fill the drains with them to within twelve or fifteen inches of the surface—put on a few hemlock or pine boughs, or turf with the grass-side down, and fill the ditch with earth. Drain-tiles, made of clay and burnt in a kiln, are made and extensively used in England, and we do not see why they might not be made and used to good advantage in this country. We have a great deal of land in our hill districts, where under-draining might be practiced with great profit. Its effects in many instances would be to render those lands which now produce only a sour, watery herbage, suitable for cultivated crops and artificial grasses. Loosening the sub-soil of such lands by the sub-soil plow, has proved of great utility. It has been practiced very extensively in Scotland by Mr. Deanston, the inventor, (as he has been called,) of the sub-soiling system, and so far as it has been tried in this country, its effects have been equally satisfactory.

In draining bogs, the first step should be to cut off the spring water, which will generally be found to proceed from the surrounding high-lands. Cut the ditches in such a manner as to intercept this water, and convey it to the general outlet. When this is done, it may soon be seen whether transverse ditches, and how many, will be required.

After the ditches have been completed, and the land has had time to settle, the next business will be the extermination of bushes, or any wild growth there may be in the way. If there are "tussocks" or hassocks, they must be cut up with a sharp, strong hoe, made for the purpose, called at the implement-stores, a "*bog hoe*." If there are alders and other bushes, as is often the case, they had better be pulled up by the roots. If the draining has been well done, the land will be solid enough the succeeding season to bear a team, and a pair of good oxen, with two men, and proper tools, will make rapid head-way in clearing out the roots. A large iron claw, called a root-puller, is very useful for this business. It is a bar of iron, say an inch and a half square, bent round so as to form two large prongs, sharpened at the ends, and with an eye at the upper part to admit the hook of a chain. This claw is fastened into the stools of bushes, and the cattle soon jerk them out.

If the land is free from large roots and tussocks, it may be brought into a fit state for sowing grass-seed, mostly by the use of the plow and harrow. In some parts of the country, a plow is fitted expressly for the purpose. The share is cast in such shape as to admit of a plate of steel being bolted on, which constitutes the point and edge, the whole fitting nicely together. This plate of steel is ground to a sharp edge, and with a sharp steel cutter or coulter, and a wheel at the beam, the plow cuts the furrow with as much exactness as a carpenter would cut shavings with a jointer from the edge of a board. Much of the prairie land in the western country might be worked with such a plow to excellent advantage.

After the ground is plowed, care should be taken in harrowing, and all the subsequent working, that the furrows do not get broken, and the wild grass brought to the top. The ground should be made fine and level before the grass seed is sown.

These lands, though they sometimes produce good crops of grain and vegetables, are generally most profitable for grass. The kinds of grass which usually succeed best on reclaimed bogs, are timothy, (called herds-grass in New England,) and red-top. There are several kinds known under this latter name. One is quite small and comes into bloom considerably earlier than timothy. It is best to sow those kinds of grass together which are fit to cut for hay about the same time, and for this reason we should prefer the larger and later kind of red-top for sowing with timothy.

We prefer August, (though if the weather is favorable the first of September will do,) for sowing these lands to grass—indeed we believe that for the advantage of the grass merely, this is the best time for sowing it on *any* land. When sown at this time, it escapes the drouth of the first season, has all the benefit of the first rains of autumn, and gets sufficient root to sustain it against the frost of the succeeding winter. It is not ready for the scythe quite so early but will give about as good a crop even at the first mowing, as if sown in the spring. Grass sown in spring, with grain crops, is overpowered and kept feeble by the grain, and if the weather is dry about the time the grain fills, or at the time it is taken off, a large portion is sure to be killed, and the consequence is weeds occupy the ground, and the hay-crop is poor in quality and deficient in quantity.

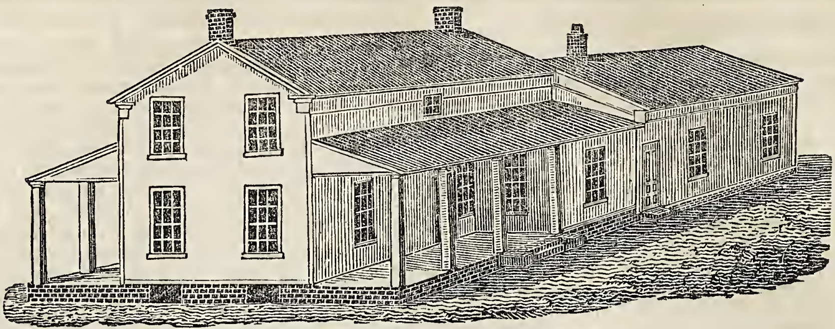
Many reclaimed bogs produce grass of very good quality, in great abundance for several years, without any outlay of expense, except to keep open the ditches, which must always be done. It should be made an object to get a close, thick sward as soon as possible, because this will tend to prevent any foul growth from springing up. When the grass begins to decline, as it will after some time, and rushes and wild stuff begin to come in, take the plow, with the share and cutter as sharp as they can be made, and when the ground is sufficiently dry in August, turn over the sward so smoothly that not a single spire of grass can be seen. Harrow lightly, (lengthwise the furrows,) with a light harrow, sow it again to grass, and pass a roller over the land. It will produce as good crops as before, until, from the natural decline of the grass, it may be necessary to go through the same process again. Experience has proved the success of this plan.

Sometimes the burning of the bushes, roots, and turf of these bogs, has a good effect in preparing the soil for cultivated crops. The alkali is thought beneficial in neutralizing the acids contained in peat. A dressing of common wood ashes has been seen to have a very striking effect in renovating the declining grass on this description of lands.

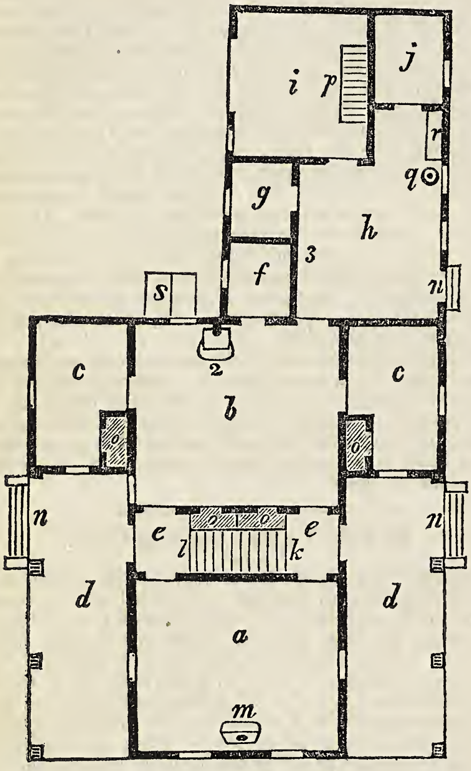
CURING GREEN CORN-STALKS.

The difficulty which has sometimes attended the curing of corn-fodder, has been considered quite a drawback to the advantages of sowing corn for winter feed. In curing hay from grass, we prefer the *sweating* mode as it is called, having practiced it with success. We have never tried this mode for green corn, but a writer (F. M. Butler) in the N. Y. Farmer and Mechanic says he has practiced it with corn to as good advantage as with grass. He recommends to cut the green corn and let it lay in the swarth to dry off the dews or moisture and to become a little heated. As soon as this is done put it up in large cocks or rather into shocks, trample it down close; let it remain in the shocks until it wilts and sweats or ripens, then dry off the sweat and remove the fodder to your barn. He says, "I remember a lot of green corn which for ten days baffled the skill of the farmer to cure it, and which was finally handed over to my care as being incurable. Feeling a firm reliance in the principles that should govern the curing of succulent vegetation for fodder, I proceeded to dry off the dews, and as soon as this was done formed the green corn into large cocks, trampling it down close, although a fine warm sun was pouring down its heat upon the field. The cocks became heated, the corn stalks wilted, but were suffered to remain until the next day, when towards afternoon the sky becoming clear, and a fine breeze blowing, the heaps were thrown open, the stalks dried and taken into the barn perfectly cured. It kept well, and in the winter the cattle preferred it to hay."

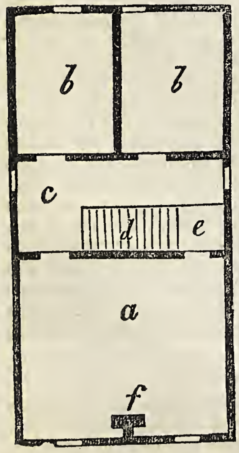
Sensible men and women never sneer at mechanics and others who earn their living by their labor. But self-styled gentlemen and ladies not unfrequently do. We have heard of a "lady" who once left a ball-room because a mechanic entered. She married a basket-maker, and died a wash-woman.—*Exch. paper.*



A PRAIRIE FARM HOUSE—(Fig. 83.)



Ground Plan—Fig. 84.



Second Story—Fig. 85.

A correspondent of the Prairie Farmer furnishes the annexed plans for a prairie farmhouse, calculated, he thinks, to combine economy,comfort and convenience, with a pleasant and home-like appearance.

It is designed for a southern or eastern aspect, the end fronting to the road. The plan is drawn for a frame house, but may be altered for brick or stone by increasing the thickness of the walls. Its convenience will be seen at a glance. It contains all the room which a farmer in moderate circumstances needs, and there is none that is superfluous. Should any like to build after the plan, who are not able to build the whole at once, the rear part can be put up first, and will answer as a dwelling, by using the meal room as a bedoom. The main building is 18 by 36 feet outside; the lean-to additions, each 8 feet wide. The rear building is 18 by 25 feet. The posts to the main building are 16 feet; to the piazza, 10 feet; to the rear building, 12 feet. The rooms of the lower floor are 9 feet between floors, the chambers 8 feet. The room *b.* is intended for a dining-room in summer, and the room *h.* for a summer kitchen; in winter, the room *b.* to be used for both purposes. The expense of completing the whole, including cellar under the main part, is estimated at from $800 to to $1,000, according to location and the material used.

Explanation of ground plan, fig. 84.—*a.* parlor, 17 by 15 feet—*b.* kitchen, 17 by 15 feet—*c. c.* bed-rooms, 8 by 13—*d. d.* piazzas, 8 by 23—*e. e.* entries, 6 feet wide—*f.* buttery, 6 feet square—*g.* milk-room, 6 feet square—*h.* back kitchen, 12 by 13 feet—*i.* wood-house, 12 feet squre—*j.* meal-room, 6 by 8 feet—*k.* chamber stairs, 4 feet wide—*l.* cellar stairs—*m.* Franklin stove—*n. n.* steps —*o. o. o. o.* closets—*p.* wood-house stairs—*q.* pump—*r.* sink—*s.* bulk-head, covering outside cellar stairs—2 cooking-stove—3, place for stove in summer. Drawn on a scale of 16 feet to the inch.

Second story, fig. 85.—*Explanation*—*a.* chamber, 17 by 15 feet—*b. b.* bed-rooms, 12 by 18 feet—*c.* passage—*d.* stair-case—*e.* closet—*f.* drum connected by pipe with stove below.

SMUT IN WHEAT.

A gentleman near Baltimore, has for several years been in the habit of washing his seed wheat in a strong solution of Glauber salts, (sulphate of soda,) with the view of preventing smut, with complete success. He says he makes the solution strong enough to bear an egg, fills a tub half full of it, and then pours in half a bushel of wheat at a time; stirs it round well with the hands, skims off all the floating grains and other foul matters, dips out the wheat with a colander; lets it drain, spreads it out on the barn floor till not quite dry, then rolls it in air slaked lime, and sows it. One man can wash and prepare in this way as much as a dozen men can put in the ground. Every description of foul seeds, garlic and filth, (except cockle,) is effectually taken out of the wheat by this process. He has had no smut in his wheat since he adopted this plan. Glaubers salts can be purchased by the barrel at about one cent and a half a pound. The wheat swells while undergoing the process, about 25 per cent; that is, four bushels will become five. If, after washing, it be left upon the barn floor all night, and thus become dry, it will lose a large portion of its increased bulk. It is better, however, to put it in the ground while somewhat moist, as germination will take place sooner; and the quicker any seed germinates after being put in the ground the better. Besides the great object in view, the getting rid of smut and other impurities, there can be no doubt that a most valuable nutritive and stimulating principle is added to the seed grain, in the soda that is absorbed. Farmers will do well to try the experiment; they may be assured it will do no harm, and it is not very costly, probably a dollar's worth of the salts would be sufficient for fifty or an hundred bushels of seed.

In Smithfield Market, London, there were 180,780 head of cattle, and 1,500,000 of sheep, sold in the year 1839.

THE STATE CATTLE SHOW.

Remember that the great show of the N. Y. S. Ag. Society, will take place at Poughkeepsie on the 18th and 19th of this month. Contracts have been made for the erection of the necessary fences and buildings, which are now nearly completed. The show yard contains about eight acres, thoroughly enclosed with a high and tight board fence. The buildings consist of a Ticket office, outside the enclosure—a Business office, on the line of the show yard—and four buildings inside the enclosure, each about 100 feet by 25—one to be denominated Floral Hall, for the exhibition of fruits, flowers and vegetables—Domestic Hall, for articles of domestic manufacture—Dairy Hall, for dairy products,—and Mechanic's Hall, to be devoted to articles of mechanical skill.

Arrangements have been made for conveying animals and goods by boats from the different places on the Hudson, at moderate charges. The rail road companies, with their usual liberality, offer to bring everything from the west to this city, free of expense; and we trust the owners of fine stock of all kinds, will avail themselves of these opportunities to send large numbers to the show.

We hope, also, that our friends in Connecticut, will gratify their brother farmers of this state, by sending over some teams of their famous and well-disciplined oxen, and other stock. Mechanics and manufacturers, too, will not let this occasion pass, without making a general display of articles in their line, which, being seen by the thousands who will be there convened, cannot fail to be much to their advantage. It is thought that the exhibition will be equal, if not superior, in every respect, to any preceding.

The annual Address, we are happy to learn, will be delivered by the distinguished historian, George Bancroft, Esq., of Massachusetts.

CULTIVATION OF LUCERNE.

A 'Subscriber,' at Strawberry-Hill, North Carolina, asks for some information on this subject.

A deep, rich, and rather light soil, is best for lucerne, and it is hardly worth while to attempt its cultivation on soils of an opposite description. The preparation of the ground consists in deep plowing, and fine pulverization. Any kind of manure suitable for clover, may be used—mixed well with the soil. It may be sown either broadcast, with some kind of spring grain, or alone in drills. We prefer the latter, for the following reasons. When sown broad cast, with or without grain, its growth is much checked, either by the grain or weeds, or by both—if a drouth occurs at the time the grain is taken off, a large portion of it dies, and what remains is so injured that the succeeding winter probably kills it. After repeated trials, we have found it very difficult to get it through the first summer and winter. Unless the weather is very favorable, so much of it dies, that it is left too thin. Having failed some half dozen times in the broad cast mode, we tried sowing in drills with a machine, and succeeded completely. The drills were about ten inches apart, and the spaces were hoed once or twice, by which means the weeds were kept down, and the lucerne grew so rapidly that it was cut three times the first season—only about a month being required between the cuttings, to reproduce a growth of more than a foot in height. It produced at the rate of five tons of *hay* to the acre.

We should prefer sowing as early in the spring as the ground would admit of, in order that the lucerne might get a start of the weeds. In the broad-cast mode, fifteen or sixteen pounds of seed is recommended—in the drill mode, eight or ten pounds, if properly sowed, will be sufficient. There is no necessity of permitting a crop to go to seed, as our correspondent suggests, as the roots are considered perennial—at any rate, they live many years. In regard to the marls mentioned, it would be better to try them, as well as lime, plaster, &c., for the effect of these cannot be positively foretold.

The seed might be had at any of the principal seed-stores of our cities. Its cost is from twenty-five to thirty-seven and a half cents per pound. By the quantity it could probably be had for less.

Lucerne is greedily eaten by all kinds of stock, and it is considered highly nutritive. It may be fed green or made into hay. We know of no plant of equal value for soiling. Its growth commences very early in the spring, and continues without interruption through the whole season. No ordinary drouth affects it in the least, after it once gets fairly rooted. The roots have been traced to the depth of more than three feet in the earth, the first season, when sown in drills. The only cultivation that it requires after the first season, is an occasional harrowing before it starts up in the spring.

CALEDONIA COUNTY, VERMONT.

We have been furnished by Henry Stevens, Esq. Barnet, Vt., with several papers in relation to the Agricultural products of Caledonia county, Vermont, of a very interesting character. This county is situated in the northeastern part of the state, its northern boundary being only about 25 miles south of the 45th degree of north latitude. In size it is about equal to 18 townships of six miles square. About four-fifths of its whole territory yet remain a wilderness, there being but 90,456 acres of land improved. From the table of statistics furnished us, we learn that the number of "polls"—that is, we suppose, male persons over 21 years of age—in the county, is 3,756. This would give 24 acres of improved land to each poll. The products of the county, as carefully ascertained from the persons who took the census, would give each male inhabitant over 21 years of age, more than one of oxen and nine head of other cattle—over 26 sheep, fine swine, nearly two horses—more than 228 bushels of grain—nearly 50 lbs. of wool, 284 bushels potatoes, about 18 tons of hay, and over 177 lbs. of maple sugar. The value of dairy products to each poll, is $57,35, and of family goods, $22,72.

This statement of actual facts speaks volumes for the credit of the hardy sons of Vermont. There is probably no state in the union where property is more equally divided than in this, and here, with a hard soil and a climate of great severity, we find on an average every man of 21 years, has 25 acres of improved land, from which he produces an abundance of all things necessary for his subsistence and comfort.

Mr. Stevens says—"I have carefully compared the agricultural statistics of Caledonia county with other counties, not only of the New-England, but of the several other states, and I give it as my honest opinion that, when you take into consideration the number of acres of improved land, its appraised value, and the number of inhabitants, there is no county in the United States that produces so much as this. That portion of the population who are engaged in agricultural pursuits, are generally very industrious, economical and persevering in business. Many of our farmer's wives have the credit of making excellent butter and cheese, and have received the highest premiums in the Boston market."

IMPROVEMENT OF SANDY LOAM.

Mr. Eli Harris, of North Carolina, inquires, first—"What is the best method of improving an exhausted, high sandy loam?" Second, "What is the best plan of sowing clover seed?—at what time—how much seed to the acre—the preparation of the ground? &c."

In regard to the first inquiry, we remark, that ashes, clay, or clay-marl, will improve the texture of a sandy soil. Use *urine*, if it can be got, (and it can if you will only *save it*,) in place of coarse barn-yard manures, because the latter makes the land still lighter, and we suppose lightness is already one of its defects. Plow pretty deep—try plaster, and by all means induce as large a growth of clover as possible.

In regard to sowing clover, it does well sown on a moist snow in March, or the latter part of winter. We have known it do well sown with rye in September, and on land not subject to be thrown up much by frost, we do not see why it might not generally do well sown at that time. As to quantity of seed, we should not sow less than six quarts per acre on such land as described, and we presume a *peck* would *do no hurt*. A preparation of the ground suitable for any kind of grain, is proper for clover.

THE CROPS IN MARYLAND.

There has seldom occurred a season of more general success in the grain crop, than the present in Maryland. Wheat and rye have averaged full crops, and have been secured in good condition, and of fine quality. Some few sections have felt the effects of the fly, some very few also those of rust, but there has been less of either than I ever before heard of. In this part of the country we are particularly liable to failure in the rye crop, from the occurrence of heavy showers of rain at the time the rye is in bloom, which washes the pollen from the plant. Whole rye fields are often seen with fine straw and large heads, leading one to suppose that a heavy crop would be harvested; but on examining the heads not a grain could be found in them. Happily, this season that excellent grain escaped the evil, and has yielded finely. The oat crop also has been large, and of excellent quality. The corn crop also promises tolerably fair, though some sections of the state have suffered considerably for want of rain, particularly the Eastern Shore, where corn is the principal dependance. On that shore some farmers will gather but small returns for their labor, the late fine rains having come too late to be of much service. But the crop in the state at large bids fair to be a good average. The potatoe crop also looks very well, though generally too forward for winter use. Should we, this year, escape the disease that affected the potatoe crop so extensively last season, there will be an ample supply. Our hay harvest has also yielded finely, both as to quantity and quality, for Maryland. The quality of our hay is not generally equal to northern hay. I believe the deficiency attributable to the time of cutting and manner of curing. Grass is generally allowed to stand too long before it is harvested. All herbaceous plants should be gathered when in full flower, if we wish to retain all their valuable properties; because, as soon as the seed begins to form, the nutritive principles of the plant, such as sugar, starch, &c. are exhausted in forming them. See how rich a cornstalk is in sugar and starch immediately before the grain begins to fill on the cob; examine the dry corn-stalk after the grain is ripe, and see how little of either will be found in it then! And so it is with hay of all kinds. In this view, all mixed hay should be of such kinds as flower at the same time; otherwise one or the other will be too ripe or not ripe enough at harvest. The process of curing, it would seem, is not properly attended to. Generally the hay becomes *bleached*, and much of its nutritive properties are lost. It is not uncommon to see hay left in the *swarth*, as the scythe left it, for several days, then simply turned over to bleach the other side by the action of the sun and dew, and left several days longer; and showers of rain that may happen in the meantime, will be so much added to the general effect! A better practice would be, to let the boys with wooden forks, follow the mowers and shake up the grass well, and before the dew begins to fall at night to rake all into winrows; next morning the first work should be to spread the winrows, and turn the hay well; and before night put it into cocks. It will thus be ready for the stack or mow the next day. I am satisfied that a large portion of the value of hay is lost by the manner of curing generally adopted.

All kinds of vegetables and fruits, are abundant, and of excellent quality; and those intended for fall and winter use are very promising. In fine, I never knew a season of such universal abundance and excellence of agricultural and horticultural products, present and prospective, as the present. *

DISEASES OF SWINE.—G. L. Cockrill, in the Tennessee Agriculturist, says—"Quinsy attacks fat hogs or all above shoats—the cause I suppose, to be the same that produces it in the human family. My remedy is, to split the neck each side of the wind pipe, some inches long, and an inch or more deep, rub in warm tar or turpentine. Staggers or turning round, bleeding freely from the tail or ear, will generally relieve them. Kidney-worms used to trouble me some, but I have had but little of it for two years; pluck out the hair from the loin, rub it well with warm tar, then feed on dough or slops, strongly impregnated with salt and red pepper; the hog should often be lifted up by the tail and exercised. Hogs' feet become affected some wet seasons, by confining them on green oats; let them have access to some clean hard ground. Water is indispensable for hogs, they can live without for some time, but do not thrive; it is as necessary for the healthy action of the skin, as it is to drink—shade is also necessary in warm weather."

NEW-YORK AGRICULTURAL INSTITUTE.

We have received from Dr. GARDNER, a circular, embracing a sketch of the fundamental principles of this institution, and an outline of the course of instruction to be here pursued. The difficulty of obtaining a course of education suited to the agriculturist, has long been deeply felt by those who have given the subject a proper consideration; but it is only within a short time, that such an extended and general interest has been manifested, as seems to indicate that the time has arrived when institutions designed for this purpose, may be established with a fair prospect that they will be fully sustained.

Dr. Gardner enjoys an extended reputation in this country as a man of science, and under his charge the success of the Institute is confidently expected. We extract the following from the circular.

The subjects of study are as follows:—

AGRICULTURE. This course is designed to communicate all facts in Chemistry, Geology and Botany, useful to the farmer—so that being conversant with the characters and properties of the bodies wherewith he is engaged, he may be furnished with sound principles to guide and improve his culture. The theories of Liebig, Tull, Payen, Boussingault and Saussure will be canvassed, explained where they coincide with practice, and exposed where fallacious. The explanation of all processes, for the improvement of the texture, and drainage of lands, will be made on scientific principles.

Improvements in the orchard, vineyard, and the cultivation of commercial staples, will be detailed. The collection, storage and preservation of grass, grain, fruits—the feeding and improvement of stock; the economy of making manures, will form prominent parts of the course.

Mineral manures found in this and adjoining states, saline, vegetable and animal manures, their comparative values, successful application, and causes of failure, with their economy, will be thoroughly examined and illustrated, by appeal to decisive experiments. In short, all the topics usually embraced in the courses given by professors of agriculture in European colleges will be introduced.

ANALYSIS of Soils, the ashes of plants, and saline manures, forms another principal object of study. The student will conduct these analytical inquiries himself, so as to become proficient.

It will be a constant object to familiarize the pupils with the method of applying principles to practice. To this end a series of cases will be prepared, in which the character of the soil, determined by examination, will be given, to discover the necessary amendments. Thus a specimen of soil being introduced from a field, valuable from its proximity to market, it will be required of the student to point out the means by which it may be brought into a perfect state of fertility at the least expense. Thus they will be prepared to think for themselves and apply the facts of science. Students coming from remote counties should bring specimens of soil from home, to furnish profitable materials for examination during the winter.

The Institute opens on the first Monday of November, and continues in session until the first of March following. Lectures and recitations will take place daily. This portion of the year has been selected to accommodate those engaged in farming, that they may not be drawn from their estates during the busy season.

Fees for the course on Agriculture, $20. For Analysis, $30. For both, $40. The laboratory students will provide their own utensils, which cost about $5. Full laboratory course, $100.

For further information, address, post paid, Dr. Gardner, 412 Fourth-street, where students arriving in town, are requested to call.

SOWING WINTER GRAIN.

Wheat—It is not always easy to tell whether early or late sowing would be most advisable. Early sown grain gets the best hold against the winter, and where it is not liable to attacks from insects, will generally yield best. But it unfortunately happens that the Hessian fly (a description of which was given in our last number) is usually more injurious to *early* than late sown grain; because a generation of the insect is sometimes brought forward in the fall. This is avoided by late sowing. But there is another insect which must be looked out for—that is the yellow maggot, (*Cecidomyia tritici*) also described in our last. This insect attacked the *late* sown winter wheat most, in this neighborhood, the present season, so that we are something in the predicament of the old navigators, who in endeavoring to steer clear of Scylla, were swallowed up by Charybdis. If we sow early and escape the worm in the *head*, (C. tritici) we are sure to have the worm at the bottom of the *stem*, (*C. destructor*.) If we sow late it is the reverse. So we see that all circumstances must be taken into consideration in determining the proper time for sowing, and the insect whose attacks are most to be apprehended, must be most guarded against.

Preparation of the ground.—In this operation, regard should be had to protecting the crop from injury during winter. This injury takes place in two or more ways. First—on land where too much water is retained near the surface, the roots of the grain are sometimes thrown out by the *heaving* of the soil under the action of frost, and by alternate freezing and thawing, the plants are left without any hold on the soil, and so perish. Against injury from this cause, we should use all practicable means to prevent water from standing on the surface, or remaining in too large quantities near the roots of the grain, and for this purpose would not only use drains, but should resort to *subsoil* plowing, loosening the earth to as great a depth as possible, thereby allowing the surplus water to descend at once so deeply that the heaving by frost is in a great degree avoided. Second—grain is sometimes injured from the rains and winds carrying the earth away from the roots. This oftentimes injures the crop more than any thing else. The mode of sowing in *drills* is the best remedy against this, which we have seen. The drill mode has, also, other important advantages, such as the security of the crop against rust and mildew. We spoke of this mode in our number for February, in describing the farm-management of Mr. Thos. Noble, under the head of "Farming in the West." The grain is sown very expeditiously with a machine drawn by a horse. The rows are left in a small hollow, so that the rains, instead of washing the earth away from the roots, are constantly bringing a little more over them, which operates as a security both against the winds and frosts. This mode of sowing, is now very extensively adopted in England, where its advantages are becoming every day more and more acknowledged. In that country, the spaces between the rows are sometimes cultivated, either by hand, or by the horse-hoe.

Proper quantity of seed per acre.—We will here give a rule, which, though at variance with some theories, we are quite satisfied is correct—viz. that the richer the ground, the less seed is required. It is the practice with some farmers to sow no more than two-thirds the usual quantity of seed on poor land, while on that which is rich, they sow an extra quantity—in the latter instance they say "the land can bear it," in the first, they suppose it can support no more. These conclusions must have been adopted without very close observation of the operations of nature in such cases. In the first place, there is not much land so poor that nothing will grow, and if it does not produce something *valuable*, it is sure to produce that which is *valueless*; and if grain on poor soils is sown thin, it is overpowered by the more hardy natural growth. Grain will not spread, or tiller, on such soils, and it must, therefore, be sown so thick that the crop may sufficiently cover the ground at *once*, before the wild plants can obtain a foot-hold. In this way, only, can such possession of the soil be secured as to insure from any crop a fair yield. On the other hand, grain-plants on rich land, have a natural tendency to tiller, and this tendency is always in proportion to the strength of the soil. It is from this cause, that wheat on rich land often recovers from the attack of the fly, while that on poor soils is killed. The strength and vigor of the roots in the former case, continue to throw up new stalks, till after the insect ceases its ravages; but from the want of this energy, the plants on poor soil, perish under the first attack. It is thus evident that poor land requires the most seed.

We are aware that farmers are not agreed as to the requisite quantity of seed, even on the same soils. In different sections of the country, the quantity varies from one bushel to two bushels per acre, and we have not found that this variation is much regulated by any difference in the quality of the soil. We think too small a quantity is *generally* sown. The most successful wheat growers we have ever known, have been in the habit of using two bushels of seed per acre, on land of fair medium quality, and we should in general prefer this quantity to less.

Rye.—The objections against the early sowing of wheat, do not, many of them, apply to rye. The latter is comparatively exempt from attacks of the Hessian fly, and we believe wholly so from the attacks of the wheat midge—improperly called *weevil*. In this latitude, there is no objection to sowing as early in September as is convenient. If it acquires too large a growth, it may be fed off by calves or sheep. Indeed a considerable object in sowing this grain, in some parts of the country, is to afford pasture in the fall, winter, and early in spring, when it cannot be had from grass. In some of the stock-districts of Ohio and Kentucky, it is highly valuable in this respect. Where snow does not accumulate to prevent its being pastured, we know of nothing equal to it for calves, ewes, and lambs, in the fall and winter. But even where snows of considerable depth lie on the ground for months, it is an object well deserving attention for fall and spring pasturage. If animals are only allowed to feed on it when the ground is in a proper state—that is, when they will not poach it with their feet—it may be pastured quite closely in the fall and winter without injury to the yield of grain, and there is no doubt that pasturing sometimes increases the yield. In some parts of the country, it is fed in the spring till grass will afford a "bite." It is then allowed to grow till the grain is filled and begins to turn, when hogs are turned in to eat it. At this stage of the grain, it does not shatter out, and the hogs get it pretty clean, trample down the straw, and leave a good deal of manure. This is considered, in the districts where it is practiced, one of best modes of enriching ground.

Rye requires a lighter soil than is most congenial to wheat. It often does well on quite sandy or gravelly land, where wheat would fail. Wheat is generally more profitable on a soil to which it is adapted than rye, provided it escapes injury from insects. On such soils the yield is equal, if not greater than that of rye. In some neighborhoods where wheat has been injured by the midge for a year or two past, rye is considered a pretty certain crop, and we find many farmers in this vicinity are intending to discontinue, for the present, the sowing of wheat, (on account of the insect here mentioned,) and substitute rye in its place. This course would seem to be a very judicious one, to be followed at least as long as danger is to be apprehended from the insect.

Sheep Racks.—The following is from a letter of Mr. Henry Weston, Jasper Co., Indiana:—"If the subject has not been brought to your notice, I would recommend a very cheap and convenient sheep rack, which is made by placing at an angle of 30 or 40 degrees from the perpendicular of a rail fence, two flat stakes or pieces of boards for each panel, and bracing them with short sticks, then laying on edge, one upon another, three or four boards, according to width, so that the lowermost shall slide close against the bottom rail. The sheep, being on the opposite side of the fence, feed between the rails. The hay thrown between the boards and the fence, will of course slide down as consumed below. The spaces between the rails must not be so wide as to waste too much, nor so narrow as to prevent feeding."

HISTORY OF THE BULLOCK STOCK.

There is a description of cattle well known in this part of the country as the "Bullock Stock," the history of which, we have taken some pains to learn, and for this purpose, we paid a visit, a few days since. in company with a gentleman well skilled in *cattle genealogy*, to the farm of the late Matthew Bullock, Esq., (about ten miles from this city,) the gentleman from whom the stock alluded to, took its name.

We find that sometime previous to the year 1820, Mr. Bullock purchased of Mr. Cox, of Rensselaer county, a bull and two heifers of a family of Short Horns, which the latter gentleman imported from England. The particulars of this importation, we have not been able to procure, but shall make further endeavors to obtain them. These heifers and their produce, were afterwards bred to two Short Horn bulls imported from England by Messrs. Bullock and Wayne in 1821. One of these bulls was called *Nelson*, and the other *Comet*—the former was principally *red*, and the latter nearly *white*. The stock from both these bulls proved good—that from Comet particularly, was very well shaped, and thrifty, and the progeny of both were good for the dairy. Mr. Bullock first took Nelson, Mr. Wayne retaining Comet; and after three or four years, they exchanged, Mr. Bullock taking Comet, on whose hands he died. For several succeeding years, Mr. Bullock bred from bulls raised by himself and from bulls owned by the Patroon. In the year 1832, Mr. Geo. W. Smith imported the Short Horn bull *Copson*, and the cow *Susan*. Mr. Bullock bought Copson, and bred from him till 1837, when he was purchased by G. V. Sackett, Esq. of Seneca Falls. The stock from Copson proved superior for dairy purposes to any Mr. Bullock had before bred—though his cattle had all along been good in this respect; and it seems to be a general impression that the stock from this bull were superior as milkers, to any which had then been known here.

A primary object with Mr. Bullock, in the outset, was the establishment of a dairy. His cattle were of course chosen with a view to this object, to which they proved well adapted; and after the use of the bulls Comet and Copson, they united, also, very good fattening qualities, and were, besides, good for labor. They were in some instances sold as high as $225 per yoke, simply as *working* cattle, and some of them which were fattened, were quite extraordinary. A pair of six years old white oxen, (got by Comet,) were sold to a butcher of New-York, one of which weighed alive, upwards of *twenty-nine hundred* pounds. They had been worked on the farm for two or three seasons, and the season they were turned off to fatten, performed a heavy spring's work at plowing. They were fattened about eighteen months. One of them had 325 lbs. of rough tallow—the other, 296 lbs. Mr. Bullock sold them for $600.

Mr. Bullock carried on dairying on a considerable scale—milking some seasons from thirty-five to forty cows, and making as many as eight tons of cheese in a season; the quality of which was so superior, that the whole of it commanded a price as high as *eighteen cents* per pound.

It is evident that it was Mr. Bullock's object to make his stock *intrinsically* valuable. He did not rely on sales at high prices, but endeavored to keep that which gave most profit *on the farm*, and in this respect he was abundantly satisfied.

None of the stock we have mentioned, were *Herd-Book* animals—in fact, all of them, with the exception of Copson, were imported before any Herd Book was published—the first volume of that work having appeared in 1822. Of Nelson and Comet no particular history has been preserved. The pedigree of Copson was as follows:

Copson, roan, imported in 1832, by G. W. Smith, Esq. bred at Copson-Lodge, England. Copson was got by Dutchman, dam, Cardinal; g. dam, Nelson; g. g. dam, Marske; g. g. g. dam, sire of Danby; g. g. g. g. dam, Danby.

Dutchman, by Mynheer—dam, Pretender, &c. &c.

So well was the value of Mr. Bullock's stock finally established, that at a sale which took place in 1837, and at some private sales which took place both before and after wards, several of the cows brought $200 to $275 each.

Since the death of Mr. Bullock, which occured a littl more than a year since, the farm has been divided between two of his sons, Messrs. Andrew and Thomas Bullock. From these gentlemen, and from Mr. C. N. Bement, (who was well acquainted with Mr. Matthew Bullock, and all the circumstances attending the importation and purchase of his stock,) we have derived the principal points in the above history.

Working qualities of the Short-Horns.—An idea prevails among farmers, that our common stock is better for work than the improved breeds, or at least, better than the Short-Horns. We are satisfied that this opinion is in many cases founded in gross prejudice—we do not believe that any fair experiments support the idea in the least. We saw on the farm of Mr. Thomas Bullock, a pair of working oxen, entirely of the variety we have been speaking of above, one of which was five, and the other six years old. They were heavy—would "*girt*" (as the Yankees say,) considerably over seven feet, and were well proportioned. They were harrowing some tough inverted sward, near the middle of one our warm est days. One of them, (a son of Copson,) was as cool and quiet as if he had been lying in the pasture; the other had not been so much accustomed to labor, and did not perform his work quite so easily, but was in good condition in every respect. Their gait was spirited and lively—more so than that of common cattle. Mr. Bullock assured us that they had worked very steadily without extra keeping. On the farm of Mr. Andrew Bullock we were shown a pair of large red oxen of the common breed. We asked Mr. B. if he preferred these cattle to such as his brother's; he replied "no, they are neither so handy or so quick as his, and will not stand work so well." Both the Messrs. Bullock told us that their father worked many of the oxen of his breed, and that he always preferred them to the best of the common country oxen. They were more tractable, were stronger, and were kept easier. Mr. Thomas Bullock very candidly remarked, that upon very light soils, where less strength of team is required, lighter and more active cattle might be preferred, but that on their strong soil, a strong team was necessary, and these heavy cattle were therefore found most profitable.

Clover as a fertilizer.—We noticed that the Messrs. Bullock pay very particular attention to stocking all their lands that are suitable, heavily with clover. Their pastures were so thickly set with it, that in spite of all the stock could eat, it covered the ground like a mat. When this ground is broken up, it is full of clover-roots, which render it mellow and friable like a carrot bed, almost ensuring the growth of a heavy crop of wheat or other grain.

The Messrs. Bullock's buildings are well arranged, and generally in good order. Considerable attention is paid to saving and making manure, and the yards are pretty well arranged for this purpose. Their general management is evidently good, and in this respect presents a wide contrast with that of some farms we passed on our way out, where the miserable fences, slovenly dooryards, the dying fruit-trees covered with old caterpillar's nests, old ricketty buildings, &c. &c., showed that the occupants were strangers to the comforts which neat and good management always brings.

Mixing Soils.—A correspondent of the Springfield (Mass.) Republican, states that Mr. John Moore of West Springfield, has made a successful experiment in the application of clay upon grass land of a dark, heavy soil. Last fall he carted on clay to the amount of forty loads to the acre—left it in heaps exposed to the frost till spring when, being dry and partially pulverized, it was spread. The expense of digging, carting and spreading, was ten dollars to the acre. The grass before the experiment, was nearly all sedge. It is now changed (no seed being put on) to red and white clover, mixed with herds grass, worth double the former crop in quality, and increased in quantity thirty per cent. A similar experiment was made in the same lot upon a light, dry, gravelly soil, which produced no effect whatever.

ENTOMOLOGY.

The Dragon Fly.—In a late report of the doings of the New-York Farmer's Club, it is mentioned that some grubs were presented, having a "singular growth, apparently like the root of some vegetable, proceeding from the neck," &c. A distinguished member of the Club gave it as his opinion that the grubs were the larvæ of the Dragon fly—*libellula.*

That vegetable excrescences sometimes proceed from the bodies of insects, is a fact, not perhaps generally known; and though these productions have been found on several kinds of insects, yet we should hardly suppose they could exist in the larvæ of the *Dragon fly;* and from the economy of that insect, we cannot but view the idea that they have thus been found, as erroneous. The Dragon fly, in the first stages of its existence, lives wholly in the water, and it is hardly reasonable to suppose that while in that element, this vegetable excrescence would be produced. We have had some opportunities for learning the habits of this insect, and have often seen it in all its stages, from the first appearance of the larvæ in the water, to the perfect fly. The eggs are protruded from the parent fly immediately into the water, where they soon hatch. When the larvæ is full grown, it emerges from the water, and fastens itself to some object near at hand. In a short time the shell is burst asunder, and the beautiful fly comes forth. In a few hours, the wings become extended and dried, and the insect commences its flight. We have sometimes taken these grubs just as they were coming out of the water, placed them in a warm airy situation, and in less than twenty-four hours have seen the fly come from them. Thus in the space of a single day, an aquatic animal, disgusting and revolting in its appearance, is transformed into one of the most beautiful inhabitants of the air!

It is supposed that the insect lives at the bottom of the water for a year or more. "Its mode of locomotion while in this element," (says the *Natural History of Insects,* pages 214, 215,) "is curious; for though it can move in any direction, it is not by means of feet or any direct apparatus that it moves, but by a curious mechanism, which has been well illustrated by Reaumur and Cuvier. If one of these nymphs be narrowly observed in water, little pieces of wood and other floating matters will be seen to be drawn towards the posterior extremity of the insect and then repelled; at the same time that portion of its body will be observed alternately to open and shut. If one of them be placed in water which has been rendered turbid by milk, or colored with indigo, and then suddenly removed into a more limpid fluid, a jet of the colored water will be seen to issue from the anal extremity of the libellula, to the extent sometimes of several inches; at the same time the force with which the column is ejected, propels the insect in the opposite direction, by virtue of the resistance with which it meets. Hence it appears that it is by means of its respiratory system that the creature walks—a strange and anomalous combination of functions in one organ.

"If the insect be taken out of the water, held with its head downwards, and a few drops of that fluid poured on its tail, that which was a mere point will immediately open and display a cavity: at the same time the body of the insect, which was before flat, will be observed to be enlarged and inflated, and if held up to the light, semitransparent: moreover, something solid will appear to be displaced by the water, and driven towards the head. This solid mass will shortly descend, obscure the transparency of the lower portion of the body of the insect, lessen its diameter, and, when it does so, a jet of water will issue from the vent. It is clear, then, that the abdomen of the libellula is a syringe, the piston of which being drawn up, of course the pressure of the fluid fills up the vacuum, and, when pushed down, expels the water. To ascertain the fact, Reaumur held the insect in his hand, and when he saw its body inflated, cut it immediately with a pair of scissors, and found it unoccupied with solids. He watched when the jet of water was expelled in another, and as soon as the body was darkened and lessened in diameter, he clipped it, and found the cut portion occupied by solids. There is no doubt, then, that the abdomen contains a moveable piston, and this piston is composed of the air tubes."

During its existence in the water, the Dragon fly lives on the larvæ of the gnat, and other aquatic insects. After its metamorphosis, it feeds on gnats, musketoes, flies, &c., of which immense numbers are devoured. A large one has been seen to spread consternation among a swarm of common house flies. Entering a room and pursuing its prey with a ferocity equal to that of the hawk or eagle, numbers of the fly are soon caught, and the rest taking ready warning by the fate of their comrades, escape from the fangs of their terrible enemy, by the nearest door or window.

The May-Bug and Horn-Bug.—But let us recur again to the vegetable excrescences on insects spoken of above. In some sections of the country, the belief is quite common that *a kind of worm produces blackberry bushes.* The insects which are thus strangely supposed to be the origin of such a production, are the larvæ of either the *horn-bug,* (*Lucanus capreolus,*) or the *May-bug,* (*Melolontha vulgaris,*) both being generally confounded under the name "white grub." The erroneous idea to which we allude, probably originated in the circumstance of a kind of fungus having been found proceeding from the larvæ of one of these insects. We have more than once chanced to find the larvæ of the horn-bug thus affected. This insect is found in the decaying stumps of trees, particularly the oak and apple-tree, and also in door-yards where the chips and rubbish from hard wood have been suffered to accumulate and rot. Blackberry bushes are very likely to start up in fields around old stumps, and these stumps being the natural haunts of the horn-bug and its larvæ, it is natural to suppose that in eradicating the bushes, worms might be found having the excrescence mentioned, and with the little knowledge of such subjects which too often prevails, and without any examination, the strange theory alluded to was adopted.

This fungus is said to have been sometimes found on the larvæ of the May-bug, (Melolontha)—it should be remarked, however, that though the larvæ of the horn-bug is considerably larger than that of the May-bug, yet their appearance is so similar, that without particular observation, the one might be mistaken for the other. It should also be borne in mind that the places where these vegetating insects are mostly found, are the natural haunts of the horn-bug, but not of the May-bug—the larvæ of the latter, instead of subsisting, like that of the horn-bug, on decaying wood, feeding on the roots of grass and other living plants. From all these circumstances, we are inclined to believe that the larvæ of the horn-bug, (*Lucanus,*) has sometimes been mistaken for that of the May-bug, (*Melolontha.*)

In all the instances we have known, the worms on which these excrescences have been seen, were not only dead but in a state of decay; yet we are aware the belief is by some entertained, that they are found in the living insect, whose death it is supposed, is ultimately produced in consequence; though we do not recollect any well authenticated instance of the kind. It is admitted however, that in living insects of other kinds, productions of a similar nature have been found.

A word in regard to the habits of these insects. The horn-bug, in all its stages, is to the farmer a harmless insect—subsisting, as we have before said, on decaying wood. Very different is the character of the melolontha, or May-bug. A more formidable enemy to field crops is scarcely to be found among the insect tribes. The parent bug or beetle, deposits eggs to the number, it is said, of nearly one hundred, in the ground, usually in the month of June, in this latitude. It remains in the ground, according to Kollar, five, or in some instances, six years, living on the roots of whatever cultivated plants or grasses it may come in contact with. It lies dormant like the ant, in winter, but revives and resumes its ravages with the warmth of spring. It is sometimes very destructive on grass grounds. Some twelve or fifteen years ago, it prevailed in some sections of this country to an alarming extent. The roots of grass were in some places so completely eaten off, an inch or two from the surface of the ground, that the turf, for rods together, could be rolled up like a carpet. We recollect seeing a piece of ground of about two acres plowed for rye, and the grubs were so numerous that it was thought advisable to pick them up. Two large buckets full were soon gathered by following the plow. They sometimes attack Indian corn, and lay the foundation for much damage before they are discovered. They begin by gnawing off the roots at a considerable distance from the centre-stalk, by which the supply of nourishment is cut off; the plant looks sickly, but retains some degree of life. In this condition, the first wind that blows throws it flat to the earth; or if it chance to survive, it makes but a feeble stalk, and perhaps no grain.

In regard to the transformation of the may-bug, Kollar says—" When the grub has attained its full size, it buries itself in the ground, five or six feet deep, at the beginning of the fourth year, prepares itself a dwelling similar to the one it occupied when changing its skin, previously discharges its excrement, and quietly awaits its last metamorphosis. It now soon begins to swell out, becomes shorter and thicker, the skin bursts behind the head, the slit gradually becomes wider on both sides, and the skin by some vermicular movement is disengaged from the pupa, which now appears of a pure white, and as the first representation of the beetle, in all its parts being now recognizable. As it advances towards maturity, the pure white color changes to a dirty orange yellow, which gradually grows darker. In January, or at the latest, February of the fifth year, the cockchafer assumes its mature form. It leaves the pupa case a soft and white beetle at first, but in the course of ten or twelve days all the parts of its body become hard and of their proper color. The insect now remains three or four months in the earth, approaching however, gradually nearer to the surface; till May, or in the middle of April, if the weather should be fine, when it exchanges its abode in the earth for one in the air. The complete transformation of a May-bug, therefore, occupies a space of five years, or even in case the beetle be retarded in its transformation by its food and the weather, sometimes six years."

No easy remedy against the ravages of these insects, has yet been discovered. Skunks (pole-cats,) destroy great numbers of them, both in the larvæ and beetle state. They may be often seen in moon-light nights, or at twilight, searching diligently through the meadows and pastures for their favorite food. Toads destroy many of the beetles. Crows and other birds seek and eat many of the worms. They are also eaten by domestic fowls and by hogs—the latter often root up the sward of whole fields, in searching for them.

Kollar describes the may-bug as being destructive to vegetation both in the larvæ and beetle state. Our own observation does not agree with this, having never seen the bug eat any thing. We have made frequent inquiries of farmers and gardeners, but have found no one who has known vegetation to be injured by this insect in the beetle state. Hence we are induced to believe that some mistake has occurred. Perhaps the insect described by Kollar belongs to another species.

The may-bug lives but a few days after it comes from the earth. Like many other insects, it seems to have fulfilled the designs of nature when it has propagated its species, and soon after this, it dies.

LETTER FROM MISSISSIPPI.

We would call the attention of manufacturers of agricultural implements, to the following letter from Thomas Affleck, Esq. of Washington, Mississippi. The opportunity furnished by the conductors of the agricultural societies, of which Mr. A. speaks, for the trial of plows, &c., we should think would be gladly improved by those interested in the sale of such articles. An opening may hence be made for a very extensive sale of implements.

We received the samples of Bermuda grass alluded to. It is very heavy, and judging from the solidity and sweetness of its stems, we should suppose it was exceedingly nutricious. In appearance, it closely resembles some of our annual wild grasses, particularly a kind sometimes called " crab grass," but which we do not find registered in any botanical work at hand. It is very troublesome in gardens of a sandy soil. The stems or branches lay close to the earth, and have the habit of striking root from each joint. In these respects, and in the character of the head, it seems precisely like the Bermuda grass. If we understand Mr. Affleck, however, the Bermuda grass is perennial, whereas the other is strictly annual, and is totally killed by the first freezing of the ground. They are probably of different species, closely allied. We shall preserve the specimens, and endeavor to ascertain the correct name of the grass.

Editors of the Cultivator—You will observe by the report I forward to you, of our spring agricultural show, that arrangements will be made for a trial of implements at our fall meeting, (last Saturday of October.) The subject now excites much interest among planters here, and all are anxious to see a full assortment of implements, and particularly of plows, from every quarter of the Union at the approaching trial. It is to be hoped that makers of implements will see how much it would be to their interest to have their machines exhibited to their customers at such a time. Articles can be shipped at a trifling expense from New-York to New Orleans, and thence to Natchez. They should be consigned to Wm. J. Minor, Esq. the president of our society—may be sent to any commission house in New Orleans. I will name Messrs. Ferriday, Ringgold & Co., who will forward them. The society expects, of course, that manufacturers will deliver their implements at Natchez free of expense, or at all events that they will authorise the society to sell the implements, and remit the balance after deducting the freight and charge. The house of Holmes & Co. of Natchez liberally offered to the society, to carry any implements, intended for exhibition and trial at its meetings, from Boston to Natchez, in their regular packet ships, free of charge. Their agents in Boston are Henry Lincoln & Co., India street. You will materially aid the cause you advocate, by laying this subject before your manufacturers, and pressing it upon their notice. An extensive market can here be opened for implements and machines, such as the following—provided planters have an opportunity to see and test—Prouty & Mear's Centre Draught, Ruggles, Nourse & Mason's, Bergen's, Burrall's, McMillen's, Sinclair & Co.'s Self Sharpening, the Dolphin, Side-hill, and many other excellent plows—including many of western make, such as Sloop's, Garret & Co.'s, Peacock's, and others in Cincinnati; Dudley's, Wood's and others in Maysville; Hall's in Pittsburgh; many excellent plows made by Hays & Co. Louisville—and in fact all good plows whose makers may have a desire to extend their market. There are Langdon's Horse Hoe; Corn Planters, especially Bacheldor's; small Threshing Machines, horse power; Corn Crushers; Fanning Mills; Straw Cutters; Revolving Hay Rakes; Cultivators; Harrows, &c. &c. In fact almost any of your labor saving implements would attract much attention, and if on trial they gave satisfaction, would readily sell on the ground. If manufacturers will forward to me, through Messrs. Lincoln & Co. of Boston, or Messrs. Samuel Wiswall & Co., 139 Maiden Lane, New-York, *good* casts or wood cuts of their implements, &c., of a size not too large for the Cultivator, I will make such use of them as will be of great advantage to them, and that without charge. My object is to illustrate the report of the exhibition and trial this fall. Please to aid me in procuring as many of these as possible, and especially of plows. I may add, as a farther inducement to manufacturers, that there are at least two annual shows held by county societies, immediately adjoining, at which implements sent here can be exhibited, as they occur after ours. Even if the implements are sold here, a reservation can be made to that effect.

Bermuda Grass—And now I will answer your inquiries with reference to Bermuda (or Doub, not *Doul,*) grass. It would not, in my opinion, bear the cold of your winters—the first frost kills it to the ground. The Muskete, or as Kendall calls it, *Mesquit* grass, I presume would suit your climate better. It is yet a mooted question whether the Bermuda ripens its seed in this latitude. I will examine it carefully this season, and if I find matured seed, will send you some. I know not where

Mesquit grass seed can be obtained. I send you three samples of Bermuda—one of long grass, of upright growth from the meadow, just coming in blossom—the other from an upland pasture—and the third, a stalk that I pulled off the surface of the ground, to show you how it spread, and how admirably it is adapted for embankments. On a piece of good meadow land, this grass stands in a solid mat—so close are the stalks, and so thickly interwoven are the leaves, that when cut with the scythe it very frequently stands erect. I feel very confident that it is *the most highly nutricious grass known to us.* From the specimens I send you, yon will readily understand how such enormous crops of hay are cut from meadows of this grass—observe the great solidity and weight of the stem. In curing, it loses less weight than any grass I ever saw—and affords three cuttings, yielding an aggregate of from five to eight tons of hay, from a moderately good meadow.

I have said enough, however, to convince any planter who wishes to form pastures for his almost starved stock, or to do away with the necessity of pulling fodder, work so destructive to the health of his negroes, that he ought at least to make the experiment. And as a proof that I am willing to aid in spreading this treasure over the naked hills of the south, I will willingly forward to any planter, *who is a subscriber to two agricultural journals, one of which is published in the state in which he resides,* on his applying to me *post paid,* a barrel of roots of this grass, which would, in one season, cover a large extent of ground. To the river planter it is absolutely invaluable—there is not a levee on the banks of the Mississippi could resist, for one hour, the pressure and attrition of the fearful flood now rolling along, but for their being bound together by this grass.

That flood, by the way, has done, and is still doing immense damage. (I now write on 26th July.) It is, by a number of inches, the highest on record. The fall is even yet so trifling, that it is disputed. The levees have broken in many places, and in others are completely overflowed. The back country is one sheet of water, in most places; and in almost all, the crops are gone, both cotton and corn. This, coupled with the tremendous destruction to the corn crops of Missouri, Illinois, Kentucky, Arkansas, &c. must, we fear, make corn very high. The loss of cotton is generally averaged at 300,000 bales—or about one-sixth of the past year's crop.

Our summer or first show came off on the 13th inst.—and a splendid, and a well attended show we had. I have not room for particulars. Thomas Affleck.

Washington, Miss. July, 1844.

TO PREVENT HORSES JUMPING FENCES.

Some years ago, I bought a good horse, which among other fine qualities was recommended as a great jumper, vaulting with ease "over a fence six feet high." I intended to take care of that part of the business myself, but for a time I found I was overmatched. I tied his head to his fore-foot, but that made no difference—over he went. I put a wooden clog on his fore-foot as large as a man's leg, but he carried that over the high fence with him. I "*hoppled*" him, fastening his fore and hind foot within two feet of each other; but was very much surprised to find him, all chained as before, on the other side of the fence; and it was not till several repetitions of the experiment, that I saw how he did it—which was by drawing his two chained feet closely to his body, and throwing himself over with the other two. And when he chanced to be free from all restraint, it was very often hard to tell where he might be found, as he would soon pass half a dozen high fences to reach some favorite field. To try to catch him, was very much like the boy's trying to catch the hawk,—he said he "did not expect to get him, but thought he might at least *worry* him."

But I have found a simple and efficient remedy. Pass a small and strong cord round his body just behind the shoulders, and tie the halter to this cord between the fore-legs, so as to leave a distance of about two feet from the cord to his head. If then he undertakes to jump, he is compelled to throw his head forward, which draws hard on the small cord, causing it to cut into his back, and he instantly desists. The cord should not be more than a quarter of an inch in diameter. A Farmer.

SOUR SOILS.

I wish to avoid controversy, but it is perhaps justice to myself and respect due A. J. P. to answer some of his inquiries, especially as he appears to have quite misunstood my object. If he will read the remarks I made, through, he will find I do not hold "old notions," and that the facts I stated were for the purpose of keeping "the question in a state of suspense," without taking ground on either side. Hasty decision has led to a great deal of dispute among physiologists and chemists.

A. J. P. will observe that I did not say that *oxalic* acid existed in soil, neither is the proof perfectly clear that it does not, for analysis is too imperfect an operation for any one to decide positively on the subject. He is perhaps aware that Dr. Dana, generally regarded as a "scientific" man, holds to the "old notion" of sour soils, and their neutralization by lime; and I would request leave to refer to a paper of his in vol. 10, page 123 of the Cultiuator, not agreeing however with him in all his opinions.

I am asked the meaning of the term *sour soil.* Perhaps I can best answer the question by referring to the 7th chapter of Ruffin's Essay on Calcareous Manures, without occupying any more space here than just to say that he gives repeated instances where the application of carbonate of lime *completely* prevented the growth of sorrel; and also very striking and decided instances where burying in the soil leaves of pine which had a strong acid taste, produced a marked and abundant growth of sorrel. That lime does not always destroy sorrel cannot be denied; but the reason of the difference in its effects, appears yet unknown. The term *sour* in England, appears to have long been applied to soils, in common language, very much as *sour face* is to a man, indicating an unfriendly quality.

I was somewhat surprised to observe that A. J. P. denied the existence of any free acid in soils. Berzelius, Johnston, Dana, and others assert it. "Who shall decide when Doctors disagree?"

He admits the difficulty of determining the constituents of the soil where they are in minute quantity. Now I have seen manures applied at the rate of one bushel per acre, produce very extraordinary results, nearly doubling the crop—and one tenth of a bushel would probably have made a very sensible increase. But one tenth of a bushel, diffused through an acre of soil eight inches deep, would constitute less than a hundred thousandth part of the whole, which would require a very skilful analyst to examine. Hence we may infer that substances existing in the soil in such small quantities that chemists cannot detect them, may yet yield important results in the growth of plants; and the latter may give decisive indications of the character of soils when analysis fails.

I am sorry I cannot furnish a specimen of the soil spoken of, for examination, as those particular portions in contact with the corroded pipe could not now with certainty be found.

It may be objected that I arrive at no conclusion, and leave all in doubt. This is what I wish to do. Nothing should indeed be beyond our inquiry; but in such a mysterious process as the growth of plants, where light and air, dew and rain, heat and electricity, and many constituents in the soil, are operating on them and on various parts of them at once, and new chemical affinities constantly taking place, and all at the same time imperceptibly slow, and by vessels and machinery so minute as to be in a great measure beyond the most powerful microscope,—it is not strange that many things remain undiscovered, and great caution should be used in laying down principles. If Newton, after a long life of deep research with mathematical demonstration, should compare himself to a boy playing with pebbles on the seashore, while the great ocean of truth lay all undiscovered before him, how much more should we hesitate in boasting our achievements in a science so much less capable of precision and certainty, as that which examines the ever-varying influences and results of vegetable growth. J. J. Thomas.

FULL BLOOD MERINO BUCK, CONSUL—(Fig. 86.)

Owned by W. R. Sanford, Esq., *Orwell, Vermont.*

In reference to the portrait above given, Mr. Sanford says, "it represents a buck which I own, nine years old, bought when a lamb, of Hon. Wm. Jarvis of Weathersfield, Vermont, by a distinguished wool grower in this vicinity. His average annual weight of fleece is ten pounds. The weight of his body three years ago, was 164 lbs. I weighed him again about the middle of last April, and his weight was 156 pounds. His stock proves very superior, possessing all those qualities that I presume every wool grower is aiming at, viz. good thickness of fleece, very fine and soft. In 1829 I purchased of Messrs. Grant and Jennison of Walpole, N. H., twenty old full blood merino ewes, which were purchased by them when lambs, of Hon. Mr. Jarvis, and *warranted full blood.* These I have kept distinct and pure, and from them have reared a flock that the ewes yield an average of four pounds and over to the fleece, of clean handsome wool. Messrs. Grant and Jennison bought these sheep of Mr. Jarvis, *before* the Saxony sheep were introduced into the country—they were of course pure, and since I have had them, I have taken a good deal of pains and trouble to keep them so. I have purchased three superior bucks from Mr. Jarvis's flock, and by using them and those of my own rearing, have kept them pure."

Accompanying the drawing, we received from Mr. Sanford some thirty samples of wool from his flock. They are of long staple, soft, and free from gum, and of good quality. We should be pleased to show the samples to those who wish to look at them.

MR. AVERY'S SHEEP.

Messrs. Editors—Agreeably to promise, I send you a drawing* of one of my improved Paular Merino ewes. She was well washed and sheared on the 25th day of June, when her fleece was just one year and two days growth, in the presence of several gentlemen, among whom were Hon. Lewis Stone, Jesse H. Mead and Wm. B. Knox, Esqs. Her fleece was weighed by one of the above named gentlemen, and weighed 7 lbs. 3 ounces. Her live weight is about 120 lbs., having a lamb by her side, about 5 weeks old, at the time she was weighed and shorn.

In the Sept. number of the Cultivator, 1843, I gave the results of an experiment made with my flock, to ascertain the best feed to produce wool. An extract from that communication, appeared also on the 17th page of the Cultivator Almanac for 1844. At its close, I expressed my intention to renew my experiments another year. I have done so; dividing my flock into lots of as nearly equal goodness as possible. The kinds of feed are, as the year before, viz:

Lot 1. Corn,...............	2 quarts	to 32 sheep.
" 2. Corn and oats,......	3 "	"
" 3. Oats,...............	4 "	"
" 4. Cracked corn in cob,	4 "	"

The result is, that those fed on cracked corn, have given $1\frac{1}{4}$ ounces more wool per head, than either other lot. Those fed on corn and oats, about 1 ounce more than those fed on oats alone. Lots No. 1 and 3 gave about equal quantities.

The whole flock, consisting of 98 ewes, (35 of which are yearlings,) and 6 young bucks, gave an average of a fraction over $5\frac{1}{4}$ lbs.; which, at 45 cents, the price obtained for it this year, is, as you will perceive, $2,36 per fleece. In addition to this, I have from my 63 ewes, which are over one year old last spring, 63 fine lambs, nearly 40 of which are bucks.

It would be folly to say that my sheep are not *well taken care of;* but I certainly do not think them *extravagantly* fed.

I have been particular in laying these experiments and their results, before the public, to show *how* they have been fed, and what kind of food has succeeded best; that wool-growers, and especially those who are just commencing, may see the advantage of proper care, with the right kind of sheep.

In reference to the wool from my Paular flock, the statements given below from the two gentlemen who have manufactured, either the whole clip, or a part of it, for three successive years, will speak for itself.

"I manufactured the wool taken from the flock of Paular Merino sheep, owned by Mr. Avery of Galway, Saratoga County, in the years 1841 and 1842. I found the average weight of fleece, in those years, to be about $5\frac{1}{4}$ lbs., well washed, and free from tags. The heaviest fleece was about $12\frac{3}{4}$ lbs. This wool is free from jar, (hair,) a beautiful soft staple of great length; becomes the purest white when scoured, retaining its mellow, oily touch, and its felting properties are excellent.

July 29, 1844. Henry Pauling."

"I hereby certify that I manufactured for Mr. Avery of Galway, Saratoga County, N. Y., a part of the wool taken from his flock of Paular Merino sheep, in 1843. He brought me 20 fleeces, well washed, free from filth and tags, which weighed 111 lbs. I find this wool free from jar, a fine soft staple, of extraordinary length; and its felting properties are of the first order.

Milton, July 16, 1844. Jos. Riggs."

I will only say further, that the 20 fleeces taken to Mr Riggs, were a trifle heavier than the flock would average, which was 5 lbs. 5 ounces per fleece.

Respectfully yours, R. A. Avery.

Galway, Saratoga Co., N. Y., July 29, 1844.

---

* We are under the necessity of omitting the drawing.—Eds.

NEW SYSTEM OF MANURING.

A singular idea has just been suggested in Scotland, in relation to the nutrition of plants. It may be summed up in a few words, thus—that a sufficient quantity of the elements of nutrition may be absorbed into the seed of wheat, oats, barley, &c. to ensure a very large produce at harvest, without any other manure. The gentleman that suggested the idea made experiments at two successive seasons, (in 1842 and 1843,) with complete success, and the Highland Agricultural Society of Scotland, have published in their Transactions, a detailed account of the whole affair. The experiments were tried on oats and barley, and the produce, especially the oats, were exhibited at the Society's exhibition last fall, and were of remarkable quality. In their Transactions, the Society speak of them in these words:—"There was perhaps no object in the exhibition of plants in the Society's Show at Dundee, in August 1843, which attracted such general attention as the remarkably strong and vigorous oats, growing in soil, exhibited by Mr. James Campbell of the Educational Seminaries of that town. The soil in which they grew, possessed no peculiar property, except that it had not been manured for eleven years. The vigor of the plants, according to Mr. Campbell, was entirely to be ascribed to their seed having been subjected to the process of soaking in certain chemical solutions." Mr. Mr. Campbell, himself, describes the result of the experiment thus:—"The greater number of the stems of the oats are as thick as small canes, and the leaves from one inch to one inch and one-seventh in breadth, of a vigorous dark green color. The seed was very light, not exceeding 37 lbs. per bushel, and consisted of grains set aside for feeding poultry. The average number of stems from thirty-three seeds, is eleven or twelve to each seed sown, and the gross apparent produce between five and six hundred fold." The solution in which these oats were soaked, was that of sulphate of ammonia. He prepared it from the carbonate of ammonia himself. He also used solutions of nitrate and muriate of ammonia, and nitrate of soda and potash, and all these in combination; but he seems to think the sulphate the best, though all the others produced favorable results. As these experiments cost but little, and can very easily be tried, I would recommend all farmers to make them with at least one acre. The simplest method is to take one pound of carbonate of ammonia and dissolve it in five pints of pure rain or river water. Then take one pound of finely ground gypsum (or plaster of Paris,) and stir it into the solution of ammonia, and let it stand twenty-four hours, stirring it occasionally. When the lime of the plaster of Paris has completely settled at the bottom of the vessel, pour off the clear liquor into another vessel, and add four pints of water to the lime, stir it well, let it settle, and then pour off the clear liquor into the other vessel as before; then put three pints more of water to the lime and stir it well again; let it settle and pour off as before into the other vessel. The object of these successive washings is to secure all the sulphate of ammonia that may be in the lime. The result will be, that there will be in the twelve pints of solution just one pound of sulphate of ammonia, which is the strength of the solution directed by Mr. Campbell. And these twelve pints, or one gallon and a half is the quantity required for one bushel of seed. The cost of the carbonate of ammonia is about 30 cents a pound at retail; the plaster costs comparatively nothing; therefore, if Mr. Campbell's theory be correct, it will cost but 30 to 60 cents to manure an acre of ground for a very large yield of wheat, oats, &c. The length of time Mr. Campbell left the oats, barley, &c. in soak, varied from fifty to ninety-four hours, at a temperature of 60 deg. Fahrenheit. Barley did best when steeped 60 hours. Rye grass, and other graminous seeds, do with soaking fifteen to twenty hours, and clover from eight to ten hours. He does not mention the time required for the steeping of wheat. Of course a much shorter time will be required than that for barley or oats; probably ten to fifteen hours would be sufficient.

Having stated Mr. Campbell's theory and given his practice with the results, I must be permitted a little criticism. It appears to me that the theory itself is a kind of condensation of the old and very deservedly exploded practice of manuring in the hill, without some of its most important advantages. Suppose a small quantity of this same sulphate of ammonia were placed in the hill with the seed, the moisture of the earth and the rain would gradually dissolve it, and the seeds would readily absorb it to the full extent of their capacity, and the growing plant would take up as much of what was not absorbed by the seed, as its future growth required. But it is obvious that this would only be of much advantage during the very young state of the plant. Its roots extend every way, far beyond the small place where the salts are: What for? Are we to be informed that the roots are thus sent out in search of inorganic matter, air and water only? Again, does sulphate of ammonia comprise all the elements of nutrition that compose the food of wheat, barley, oats, &c.? Let us see. Straw contains 38 per cent of carbon; that is, one hundred pounds of straw contain 38 pounds of carbon; and one hundred pounds of wheat contain 43 pounds of carbon. Sulphate of ammonia can only furnish the necessary (but absolutely essential,) nitrogen, nothing more. If, therefore, as Mr. Campbell asserts, oats soaked in a solution of sulphate of ammonia, and planted in a tilly subsoil taken six feet from under the surface, and in which there is no humus or organic matter of any kind, produced from five to eight stems of prolific oats, then we must conclude that a sufficient quantity of carbon and organic matter to supply the plants with its other elements must have been supplied through the medium of rain water, atmospheric air, &c. It may be safely admitted that the plants do obtain from these sources, an abundant supply of carbon; but that they do not thence obtain their potash, phosphorus, magnesia, silica, &c. is well known. Again, supposing there is no magnesia in the soil, whence will the wheat plant obtain phosphate of magnesia, which is an essential portion of all the gramineæ? Whence, also, will it obtain the silicate of potash, if there be neither potash nor silicic acid in the soil? Will sulphate of ammonia alone, in a soil taken six feet below the surface, and in which there is no humus or organic matter of any kind, furnish all these or any of these essential elements of vegetable organism? As hinted above, ammonia furnishes to plants nothing but nitrogen; nitrogen does not enter into the composition of any one of the above named elements. plants receive much, if not most of their carbon from the atmosphere; and why may they not also receive their nitrogen from the same source, as atmospheric air is composed of oxygen and nitrogen, the latter being four-fifths of its bulk. We all know that they do take carbon from the atmospheric air, throwing off the oxygen, and it is no more than reasonable to conclude that they appropriate the nitrogen to their own use.[*] If this hypothesis be admitted, the application of ammonia to soils is superfluous. But again, and I will have done with this criticism. Can it for one moment be supposed that a grain of wheat can take up by absorption, a sufficient quantity of ammonia to supply the whole plant, seeds and all, with all the nitrogen required for its perfection? It must be borne in mind, while considering this question, that twelve-thirteenths of the bulk of the solution absorbed by the grain, is simple water, and therefore that but one-thirteenth of the same bulk is sulphate of ammonia, that but one-third of this is ammonia, the other two-thirds being water and sulphuric acid, that about five-sixths of the weight of ammonia is nitrogen, the other sixth being hydrogen. Hence, wheat steeped as directed by Mr. Campbell, and absorbing the whole of the solution, will contain only one two-hundred-and-thirteenth of its own weight of nitrogen, a portion so inconceivably small, as to entitle the theory of Mr. Campbell to the appellation of the Homeopathic practice of agriculture. It is pretty well known to chemists, that grass, hay, &c. contain one per cent of nitrogen, that is, that one hundred pounds of hay contain one pound of nitrogen. I have not been able to find any close analysis of wheat, but it must of necessity contain a much larger proportion of nitrogen than grass does, on account of its possessing a greater abundance of gluten, an essential element of which is nitrogen. Therefore the addition of half a pound of nitrogen, (which is the greatest quantity Mr. Campbell's theory requires,) to an acre of wheat, could only result in adding fifty pounds of wheat in the straw to the harvest that would have been yielded without it; that is, that this plan of manuring can only result in increasing the crop, straw and all, of an acre of ground, fifty pounds. Still, as I stated before, it is worth trying, because the cost of the experiment is a mere trifle, and there may be things in agriculture as well as elsewhere, not dreamed of in our philosophy. In the chemical proportions above referred to, I have only attempted an approach to the various quantities, but I believe a sufficiently close approximation to exactness has been attained for all practical purposes, especially for that in view.

---

[*] I am fully aware that chemists deny that plants derive any benefit from the nitrogen of the air, because, say they, "nitrogen cannot be made to enter into combination with any element except oxygen, even by the most powerful chemical means." Are there not many other combinations in the vegetable organism, that the same powerful means cannot produce, but that the chemical means of nature can and does continually?

Baltimore, Aug. 1844. GIDEON B. SMITH.

MERINO SHEEP—A CHALLENGE.

EDITORS OF THE CULTIVATOR—At your request, I forward you some samples of my merino wool.

As the best answer to the commendations of the merino sheep of Mr. D. C. Collins of Conn., and the attacks on those of other breeders, which have appeared in the American Agriculturist, I forward you a copy of the following offer forwarded by me this day to Mr. Collins, accompanied by the intimation that it would be published in the principal agricultural journals of this State.[*] This intimation was given to allow him to publish his answer accompanying the challenge, in the September number of those periodicals, should he see fit:

I will show a buck from the flock of Mr. S. W. Jewett, against Mr. Collins' 'Grandee,'[*] and as the properties of the individual do not always test the blood and properties as a stock getter of a male animal, I will show two bucks and two ewes not less than one year old, and also two buck and two ewe lambs, all got by the buck exhibited by me, against an equal number of bucks, ewes and lambs, the get of 'Grandee' from Mr. Collins' imported stock or their descendants—these also with the exception of the four lambs, to be not less than one year old. The descent of the other animals from the buck exhibited by me, and from 'Grandee,' to be properly attested. The exhibition to take place at Poughkeepsie at or near the show ground of the State Agricultural Society on the 17th day of Sept. next, at 2 o'clock, P. M. As the judges on sheep selected by the State Ag. Society will not probably be then in attendance, and as they might not choose to be called on to decide in a private contest of this kind, I will select one of the judges, Mr. Collins shall select one, and the two thus named shall have power to select a third. I have named no sum of money as a wager, for under provocation which I consider as most gross and wanton, I would avoid all appearance of retaliatory blustering. I am content to show the sheep, and let their comparative merits be decided by disinterested men; but if desired by Mr. Collins, a wager for any sum not exceeding $200 on a side, will not be declined.

I will also show at the same time and place, samples of wool from five of my ewes, against samples from an equal number of Mr. Collins' Rambouillet ewes, the weight of the last fleece, from which each sample is to be taken, to be proved by the affidavit of some individual who witnessed the shearing, "doing up," and weighing of each of the fleeces without being absent *during or between* either of said processes. The entire credibility of the person making such affidavit to be certified by the first Judge of the County in which he resides. The weight and quality of the fleeces in connection with the ages of the sheep, to be taken into consideration by the judges in making their decision. Judges selected as above. Here too, no wager is offered, but if one is proferred by the opposite party, to an amount not exceeding say $50, it will not be declined.

This challenge to remain open until the 5th day of Sept. next. HENRY S. RANDALL.

Cortland Village, Aug. 5, 1844.

BEST TIME FOR CUTTING WHEAT.

The following experiments, just performed by the writer, to determine the best time for cutting wheat, may possibly be interesting to some:

1844, 6 mo. 29.—A few heads of wheat were cut from the field, when perfectly green, the grains hardly having attained full size, and being "in milk" or quite liquid within. After drying several weeks, a hundred seeds were carefully weighed and found to weigh only twenty grains. They were almost shrunk to chaff.

7 mo. 4.—Other heads were cut in the same way—they had just begun to assume a perceptible shade of yellow. One hundred seeds weighed when well dried, 35 grains, or nearly double the first.

7 mo. 11.—Other heads were cut—they had changed about one-third in color—the grains in the *dough* state. One hundred seeds weighed 46 grains, and would be regarded as a fair specimen of ordinary wheat.

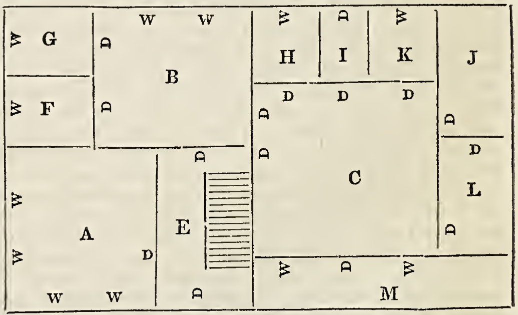
7 mo. 15.—Mostly become yellow—a few streaks of decided green near the tips of the chaff—heads quite erect. After cutting in this state, and drying some weeks, the seeds were very plump and fine looking, 100 weighing 55 grains.

7 mo. 29.—Heads dead ripe and curved downwards. 100 seeds weighed 53 grains, being two grains lighter than the last, which would be a loss of about one bushel of wheat in every twenty-seven, by cutting it dead ripe, instead of two weeks earlier as in the above instance—besides the loss by shelling, and the inferiority of the straw. J. J. THOMAS.

PLANS OF BUILDINGS.

MESSRS. EDITORS—Here is a plan of a farm house that I would like to see in the Cultivator; and also a plan of a cheap horse barn, asked for by one of your correspondents.

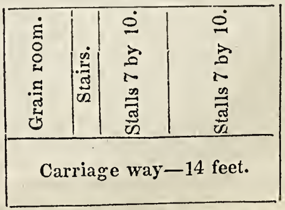
FARM HOUSE—(Fig. 87.)



Main building, 24 by 32 feet, two stories—back building, same size, story and a half high.

A. parlor, 16 by 16—B. dining-room, 16 by 16—C. kitchen, 18 by 18—E. hall, 8 by 16—F. bed-room, 8 by 8—G. bed-room, 8 by 8—H. bed-room, 7 by 8—I. hall, 4 by 8—J. wood-house, 12 by 16—K. pantry, 7 by 8—L. wash-house, 12 by 12—M. open stoop, 6 by 32.

HORSE BARN—(Fig. 88.)



Cost about $150, 24 feet wide by 32 long. Posts 14 feet long.

---

[*] I give it this unusual publicity, as these commendations of Mr. C.'s sheep, *accompanied* by a favorable notice of the attacks which have appeared in the Am. Agriculturist, on the sheep of other breeders, have been published in an Almanac, of which a large edition has been issued with the design of giving it as wide a circulation as practicable.

[*] Mr. Colling's best imported buck, of which a portrait has appeared in the American Agriculturist, American Agriculturist Almanac, Central N. Y. Farmer, &c.

CHARCOAL, ITS PROPERTIES AND ACTION.

Messrs. Editors—Since the coming in of science to the aid of agriculture, there has seemed a wonderful disposition in the minds of some men to run quite mad on some particular theory or opinion. And this has shown itself in nothing more than in the desire to make some one substance in small quantity, supply the place of all manures. But the search for such a substance will be as vain as that of the alchemist for the philosopher's stone, as long as plants are of their present compound nature. In some parts of this country, the mania has run on charcoal; and from the praises often bestowed upon it, it would appear that it is indeed a substitute for all manures, although *in itself*, almost or quite valueless. No systematic and correct experiments have been made with it, by which its value can be estimated, and it is highly desirable that such should be made. Wherever great results have been attributed to the use of charcoal, it has always been applied in connection with some other substance that might well dispute the credit with it. Theory cannot settle the question, though theory is not altogether useless.

Charcoal is often spoken of as *pure carbon*. This, however, is not the fact. It consists of carbon mixed or chemically combined with the earthy salts which constitute a portion of all vegetable matter. When burned in the open air, the carbon is consumed, and these salts are left behind in the small quantity of ash that remains.

It is one of the most indestructible of substances. Exposed to heat of the greatest intensity, if air is excluded, it suffers no change. Moisture has no effect upon it, nor any chemical agent. It has been said by some writer that after being in the ground for several years, it is converted into a sort of coaly earth. But on the other hand, it is well known that charred wood will remain unchanged for years under these very circumstances. It is at any rate doubtful if it is ever converted into earth, or of itself, furnishes any food for plants.

Its most important property as a manure, is its porosity; and if it has any power, it probably depends upon this. All porous bodies possess the power of absorbing gases in greater or less quantities. Charcoal, *after being heated to redness and cooled without being exposed to the air*, will absorb 90 times its own volume of ammonia, and various quantities of other gases. By this force, they are condensed into a solid form. If heated, and then cooled under water, and placed in a confined portion of atmospheric air, it will absorb all the oxygen and leave pure nitrogen. But holding these gases with all this force here, does it give them out to the roots of plants?

One class of theorists say, that the vital force of the plant will separate them. But they are locked up in the small pores of the coal, where the most minute fibre of the root cannot penetrate. Others say it is by the power of fixing gases that it is useful, without accounting for the giving them out. Now what is the fact? Water absorbs at the common temperature and pressure, from 600 to 800 times its volume of ammoniacal gas, and will not part with the whole of it when boiled. Charcoal 90, water 800. The superior force of the water is seen at a glance; and what must be the result? Simply this—if charcoal is put upon land as a manure, however much gas it may have in its pores, the first shower of rain will separate it and carry it into the earth for the use of plants, and the pores of the charcoal are filled with water. As soon as they are dried by the heat of the sun, the process of absorption commences again, and again it is washed out. This view of the case would indicate the use of charcoal as a top-dressing to crops. And this is believed to be the correct plan. Buried in the soil, it adds to its looseness, but is not exposed to alternate dry and wet as when on or near the surface.

There is another mode in which this substance is used and with undoubted benefit, and that is, in the compost heap, or as an absorbent of the urine of men and animals. The general opinion seems to be, that in this case also it acts as an absorbent of gases produced during the decomposition of these matters. That this is not the case, will readily appear, by referring to its well known action on animal matter. If meat which has begun to putrefy, be packed down in charcoal, it is not only deprived of all bad smell, but the process of putrefaction is immediately arrested. No more gases are formed, and of course no more are absorbed. Its effect is to stop the process of decay. In this way any animal or vegetable substance may be preserved a long time unchanged.

Thus when used in the compost heap, or when saturated with urine, all the substances it comes in contact with, are brought under its influence, and when applied to the soil, are gradually separated by the rains which fall upon them, and undergo in the earth the decay which fits them to become food for plants. Used in this way, charcoal will undoubtedly be found very useful, much more than when applied alone.

It is very desirable that those who have it in their power, should make accurate and careful experiments upon this substance, to ascertain its individual and comparative value; and I would suggest to those who can do it, to try its effects in something like the following way, unless some other should appear more convenient. Take four equal portions of the same land, and treat them thus:

1. No manure.	2. Charcoal.	3. Yard manure.	4. Charcoal saturated with urine.

Newburgh, N. Y., Aug. 3, 1844. A. J. P.

TO BRUTUS.

"The blood will flow where the knife is driven;
The flesh will quiver where the pincers tear."

July 15th, 1844—My eye has just rested on the article of ☞ "Brutus," an appropo exponent of his feelings and taste. He asks whether I would deny ugly, vicious, and debased women, the benefit of a name? I say no: and would reply in part by asking a few questions. Would you, if a fine field of wheat was struck with rust, call it Canada thistles? or a sheep smitten with the scab or foot-rot, a goat or pole-cat? Proper names are given in infancy, when the blank page of life is unsullied by vice; if in after years, immorality should harden the heart, and vice bedim the bright sunshine of youthful innocence and hope, they are amenable to a higher tribunal than that of man. But the idea of giving proper names to unthinking brutes, is fraught with such ridiculous bad taste, it excites a smile of pity for the weakness of man. Two years since, at the State Fair held at Syracuse, I saw Daniel Webster, and where do you think? Tied to a pine tree, by a ring in his nose. Do you think if that illustrious statesman had been there, and seen him, he would have thought it a high compliment to behold a namesake in that condition? What gentleman of refined feeling, would think of applying the name of a wife or a daughter, to a great strapping Berkshire sow, with thirteen pigs? If the name was to expire with the animal, it would be quite an abbreviation of the error; but many of them are herd-book lordlings and princesses, whose names are recorded, and will be referred to, as long as man wields the plow and the spade for a subsistence; "yea, as long as earth bears a plant, or sea rolls a wave." Who would think of looking in the herd-book for a name for a son or daughter? and what man of high tone of moral feeling, would think of looking in his family register in the old ancestral bible, for names for his sheep and calves? If he did, I should expect his next act to be to make a golden calf and then fall down and worship it. What would be said of us as a community of enlightened farmers, if we should make it a common practice to name our male sheep, hogs, horses and cattle, after our most distinguished scholars, statesmen, orators, philosophers, poets and divines, and the females after the most accomplished lady writers of the day? If we should ever arrive at that point of animal refinement, I would propose to give them these titles also; as for instance, my bull, the Hon. or Elder or Col. The ancients recorded the deeds and names of their sages and heroes, in song and sculptured marble; we polished moderns, practical believers in transmutation, apply them to soul less brutes; they deified their great men, we brutallize them. To lend one's name to another's note, is granting no small favor, but to have one's own name, or that of a mother or sister, taken without leave or license, to be sacrificed at the Moloch altar of beef, mutton and pork, is "carrying the joke a little too far." Would "Brutus" give his own fair name as a cognomen for a buck, a bull, or a boar? If not, remember the golden rule. By the way, I have a princely gentleman of the cow-yard; a roaring four year old animal magnetizer, whose present title is "Brutus;" if the incog. "Brutus" will send me his address, he shall forthwith become God-father to as splendid a bull as there is in the Parallelogram County.

Yours, **Junius.**

NOTES OF A TRIP TO LOWELL.

Messrs. Editors—You will probably remember that when, on passing through your city a few weeks since, I mentioned to you my intention of making a short excursion to the eastward, you mentioned to me to furnish you with some memoranda of what I might see worth noting in the course of my trip. I declined engaging to do so, on the ground of being unqualified to write for the public eye, as well as disinclined to do so in this age of fine writing and critical animadversion. I thought no more of the matter until I reached Lowell, where, finding a leisure evening, I remembered your request, and set about scribbling a few rough memoranda, such as I here send you.

Allow me to start at Vergennes, an incorporated but small city, and by the way, the *only* city in our State. Vergennes lies on the Otter creek, eight miles north of my place of residence, and is accessible to vessels of the largest size from Lake Champlain. It has manufactures established on an unlimited water privilege, and a United States Arsenal. It is the place where McDonough's fleet was built and equipped in the last war. The largest vessel in the victorious battle of Plattsburgh, was built here in 42 days; the timber mostly taken from the stump, in the mean time. Here I went on board the new packet "Garland," which plies monthly between this city and Buffalo. At her side were lashed several boats laden with iron, timber and other commodities, which were all towed to Whitehall at the head of the lake, by one of the lake steamers. On one of these tow-boats I shipped a few sheep, ordered by Mr. Peckham of Utica, which he assured me were designed to *improve* his flock "at the west."

In Albany, I met Mr. Robert S. Wilson, a planter from Baltimore county, Maryland, with whose conversation I was highly entertained. He is a practical agriculturist, and among the many experiments which he has been making, he mentioned one on Indian corn, which I think worthy of note. He has for three consecutive years planted seed corn taken from within an inch of the butt end of the ear, and the result has been he has obtained a mature crop of corn, some two or three weeks earlier. I have never tried the experiment myself, but I am confident the corn crop can be forwarded in this way, from the fact and for the same reason that beans taken for seed from the lower part of the vine which mature first, have been found on trial to ripen some time sooner than those taken from the upper parts which mature later. Mr. Wilson informed me that great improvements were making in the agriculture of his State, particularly by some enterprising individuals who had emigrated from the eastern States, and he thought that those who chose to settle there, with help brought from the east, would find themselves able to invest money very profitably in lands and agricultural operations; that lands were now at their *minimum* price, and would in a few years advance in value a hundred per cent. He said that he himself raised last year a crop of corn from a piece of "worn out land," as the lands exhausted by long cultivation are there called, which yielded 70 bushels to the acre; and that his crop now growing, promised him an average of 100. He remarked further, that bone dust was one of the best fertilizers for these lands, which they had found; and that this could now be procured in plenty and very cheap, in the cities and market towns.

In New-York, I called on Mr. Van Ness, the collector of customs, not to obtain an office, (Heaven forbid!) but to obtain from him such information and assistance as he might be able to render me in reference to a contemplated voyage to Spain; he having been lately our Minister to that country. He obligingly gave me such information as I desired, and promised me such letters as might be useful to me abroad.

Leaving New-York for Providence, I passed in one of the noble steamers, through Long Island Sound. It being clear and calm, we had a delightful view of the city as we passed it, and the scenery along the shores of Manhattan and Long Island, surpassing any prospect that I ever before witnessed. The improved cultivation along the banks, the elegance and taste displayed in building, fencing, laying out of gardens, parks, alleys, &c. and arranging copses, shrubbery, &c., all added a beauty and loveliness to the scenery which seemed more like enchantment than reality.

Along the route between Stonnington and Boston, I observed that the field crops were suffering considerably by drouth, though all along the border of Lake Champlain, the Hudson and the Sound, they were quite promising. The grass crop is not as heavy in general, as last year; but the quality is I think better than I have ever observed before; red and white clover literally cover the ground with their blossoms. In Vermont, the wheat harvest has never appeared better within my recollection. There is sufficient growing to supply the State at least one year. Last year the average crop was about 18 or 20 bushels to the acre; this year, I think the average will reach nearly 25. The Black Sea wheat will be of incalculable value to the State, should it continue to yield as it has done for the few years since its introduction.

But to return: I made but a few hours stay in Boston, and consequently saw but little of that beautiful and flourishing city—a home for Yankees. I called, however, on the editors of the Boston Cultivator. Mr. Pedder I found at the office, and the short interview I had with him assured me that he was an enlightened practical farmer, and I was particularly interested in his intelligent observations respecting the management of sheep. He said he had formerly had the charge of (I think) about 13,000 in Pennsylvania.

At Lowell, I called on Samuel Lawrence, Esq. I found him at his mansion-house, a little out of the city, on elevated grounds, which command a fine view of the city and adjacent country for many miles in circuit. He has just finished his house, which may be fairly called a palace. It is of wood—a very elegant and costly style of building, and finished in exquisite taste. But however pleased I was with the mansion itself, I was still more so with its worthy owner and inmates.

I found Mr. Lawrence clad in checked cloth of his own manufacture, such as he sells at $1.25 per yard. He said he had worn no cloth other than of his own manufacture for fifteen years.

On arriving at his factories, I was much surprised to find manufactured there every kind and quality of woolen cloths, from those worn by the humblest, to such as are chosen by the wealthiest citizen of our land. I learned that the two factories under his charge, had consumed 3,300 lbs. of wool per day for the last month, and that the general average through the year is 3,000 lbs. per diem. I saw piles of wool in the fleece, in his warehouses, all of last year's clip or older, to the amount, as I was told, of more than 1,000,000 lbs.

Mr. Lawrence pays *more* for fine wool, and *less* for coarse, than any other purchaser. His prices varied from 25 to 80 cents; for many lots that bring 38 and 40 cents in Vermont, he could not offer more than 32 to 35 cents. Mr. L. says he has no doubt that the weight of fleece may be increased in our flocks, without injury to the pile; that the length of staple was no detriment to the manufacturer, and that this would soon be recognized as the first wool-growing country in the world, with the best and most profitable breeds of sheep. He further agreed with me respecting the competition from the west, that Vermont had nothing to fear at present—that if he owned 1,000 sheep, he would sooner place them in Addison county, Vermont, than to send them to the prairies of the west.

The contrast between the condition of the laborers in this manufacturing city, and that of the "operatives" in the cities of Europe, must forcibly impress every intelligent and humane mind. Here, instead of poor, emaciated and haggard forms, and visages worn out with sleepless and never ceasing toil, all appeared blooming, cheerful and healthy.

In no city in our country can be found so great a proportion of young, healthy and neatly clad people. Among the whole populace, I saw not a single pauper or beggar. What a contrast this with the ragged, sickly, beggarly thousands, that throng the streets of Manchester and Leeds!

On Saturday eve, the walks were filled with young "*ladies*," as they may well be called, neatly, and many of them even elegantly dressed, presenting those native decencies, proprieties, and even graces of manner and movement, which many of the highborn and fashionable belles of Broadway might advantageously copy.

Who ever heard of a literary journal conducted by factory girls in any other country or place? In the city of Lowell is issued a neat little monthly sheet called "THE LOWELL OFFERING," written, edited and published by the working girls in the factories!

In Mr. Lawrence's woolen establishment, there are employed 550 females, and about 250 males. In the different factories of the city are 6,295 females and 2,345 males. Many of the girls who, when they came to Lowell, had left their parents in poverty and distress, have, by their diligence at the spindle and the loom, removed from their grey hairs the pressure of penury, and rendered their last days comfortable and happy. Some have even been able to pay off mortgages and recover from alienation their patrimonial inheritances. The girls usually receive from $1 to $2.50 per week with their board, making an average of about $1.75. There is a Savings Bank in which they deposite a considerable portion of their wages, bearing interest. In their moral condition and character, the operatives of both sexes are not inferior to any portion of the community. On Sunday morning the streets are full of young people at the ringing of the bells, walking in orderly procession to their respective Sunday schools and churches.

The factories in Lowell were commenced in 1825. There are now thirty-three in successful operation. There are 8 establishments for calico printing, besides which are powder, flannel, blanket, batting, and paper mills, grist and saw mills, foundries, &c. The total number of yards of cloth (cotton and woolen) manufactured in a year by all the mills is 74,146,600, which amounts to 230,000 yards per day.

In taking leave of my hospitable and excellent friend, Mr. LAWRENCE, I cannot but remember the deep interest he manifested in agriculture, especially in the rearing of sheep. On the centre table of his splendid parlor lay, in elegant bindings, the three volumes of the "Transactions of the N. Y. State Agricultural Society," and two volumes on the "Domestic Animals of England, with Engravings."

I observed nothing novel in my hasty journey home, through a part of Massachusetts, New Hampshire, and across the Green Mountains, except the mode of quarrying the granite in New Hampshire, and the very common use of it in sections of that state. In separating the blocks from the mass, small holes are drilled in a straight line a few inches asunder, into which wedges are inserted, which being gently and evenly driven, sever blocks of any required length; these may be afterwards subdivided in the same way. So easily is this hard material quarried, and so easily wrought, that it is considered in many parts of the state, the cheapest material for posts and fixtures requiring strength. As we passed along the road, I saw great quantities of these posts in the railing of bridges, viaducts, ornamental fences, and common fields enclosed with these granite posts, into which are fitted wooden rails. The price of these posts varies according to finish and size. Small plain posts may be furnished for a shilling a piece. Crossing the Green Mountains, I reached home safely, and was not at all displeased to think of remaining on the banks of the Otter.

SOLOMON W. JEWETT.

Weybridge, Vt. July 20, 1844

ON THE YOLK OF WOOL.

MESSRS. EDITORS—This substance is also called *eke*, in some parts of the United States, and with much propriety, as it is continually eking or oozing out of the skin. The words eke and yolk, or yoke as it is frequently pronounced, appear to be derived from the Saxon word *eac*, which in their language, is pronounced *eoke*. So that between the spelling and the pronunciation, the two words *eke* and yolk or yoke, are made out of the same word. In the present state of the English language, the word eke seems to define this secretion of the skin with propriety, and the words yolk or yoke seem to be the Yorkshire dialect for the same thing.

The yolk of wool is a kind of soap which is composed of potash and an adhesive oil, and the potash is super-saturated with this oil, and to it are added small quantities of carbonate of potash, acetate of potash, muriate of potash and lime. That it is principally a soap, in which the alkali is super-saturated with oil, any person may convince themselves by putting some alkali, either potash or soda, into some rain water, and washing some eky wool in it. The eke will be turned into a perfect soap, and the wool made clean with the greatest ease.

The uses of the yolk appear to be as many as three:

First—it makes the wool soft and lively. Hence that kind of yolk which is most abundantly saturated with the adhesive oil is best. It will then adhere to the ends of the wool as well as to that which is near the skin; and every part of the wool will be kept lively—whereas, if the yolk is almost nothing but a mere soap, as seems to be the case with the yolk of some kinds of sheep, it will be washed by the rain out of the ends of the wool, and such ends of the wool will become dead as it is termed, and will felt unevenly.

Second—the yolk forms a defence against the weather. If it is of such a quality that it will not be washed out by the rain, it will be for the sheep a complete coat of mail, and it must be a severe storm of rain or snow which will completely wet through such a fleece. In Scotland, after the lambs have been weaned in autumn, it has been customary to milk the ewes a few weeks, and from their milk to make a quantity of butter, and then mixing this butter with tar, say two or three parts of butter with one of tar, they prepare a kind of artificial yolk in order to soften the wool and defend the sheep against their wintry rains and snows.

If they find it profitable to take so much pains to make this artificial yolk, how carefully should he who owns merinoes, breed them together so as to preserve the proper quantity and quality of the yolk upon his sheep? and if there is any especial reason for preserving merinoes pure, it is the preservation of the quantity and quality of the yolk.

Third—there is very little taste to the yolk, and yet it appears to be in some measure a defence against flies and worms. The tick seems to be the only animal which can live comfortably in pure yolk of wool. No fly of North America will lay its eggs in pure yolk of wool of the merino. It is only when the yolk is mixed with blood or mucus or some other animal matter, that the fly will deposit eggs which will make worms. The sheep of England are very much troubled with maggots coming from eggs deposited by the fly in the wool itself. But it would seem that they must have some different fly from what is found in America; for British sheep in America are not troubled in this manner. And after wool is shorn, it will not be disturbed by moths so long as the yolk is left in it. This to the wool buyer is a very useful property of yolk. And he always buys it, making proper allowance for yolk and dirt, and buys it readily when it is black with yolk, knowing it to be good; and all the compliments for clean wool which are purchased by raising sheep which are deficient in this useful article are dearly bought.

C. D.

COTTON CROP OF FLORIDA.—A letter from G. F. Baltzell, Esq., dated Oakley Hill, July 24, says—"The planters of this country will again be seriously injured by the caterpillar, lessening the crop of the staple to one-third of their expectations two weeks ago."

AGRICULTURAL INSTITUTIONS.

BY ALFRED L. KENNEDY.

That the ignorance of true theories and improved processes of agriculture, which prevails in most sections of our country, can be radically removed only by establishing agricultural schools and colleges, is a proposition that receives the universal assent of intelligent men. The question on the *necessity* of these institutions, is settled throughout the civilized world. Our duty now manifestly is, to adopt the best plan, and then to put it in execution forthwith. This duty is of no mean proportions. The causes of the difficulties, changes and failures of like projects, must be well studied ere we can expect to profit sufficiently by their experience to avoid their fate. That these difficulties are not invariably fatal, is evidenced in the continued and flourishing existence of schools, which are widely illuminating the toil of the cultivator. We propose to sketch a few interesting particulars of the most prominent of these institutions. They may be most conveniently treated under two heads. Those which, to an *academical* course, unite the theory and practice of agriculture, and those which teach agriculture only.

The schools of the first class, are based upon the Institution at Hofwyl, in Switzerland, under the direction of its noble founder, the philanthropic M. de Fellenberg.* It consists of three schools, literary, agricultural and intermediate. In addition, lectures to teachers are annually given. The literary school commenced by the introduction of three children into the family of the principal. In 1807 the first building was erected for it. In a few years the number of professors gradually increased to 20, and the pupils to 80. The studies comprise, in addition to those taught in our colleges, music, dancing, fencing and cabinet-making. The latter gives facility in the use of tools, incites habits of industry; and as the product of the student's labor becomes his own, and is generally sent home as a present, neatness of execution and filial affection are encouraged.

The object of the Agricultural School is to afford children of poor parents an opportunity of acquiring an excellent education, while they gain a practical familiarity with the most improved farming processes. This was commenced in 1808, under the most unfavorable auspices. The children were of the worst possible description—brought up in idleness, they were literally taken from the hedges and highways. Yet by receiving a few at the onset and slowly increasing the number as the first became subject to the admirable discipline, a perseverance that nothing could daunt, has successfully established an institution whose benefits have excited the admiration of the friends of education every where.

“The pupils are admitted at an early age, there being however, no fixed limits, and are expected to remain until 21, if supported gratuitously. By so doing, they would be enabled by their manual labor to repay the expense of their maintenance and education, so as to leave the institution without pecuniary obligation. They would besides, be detained beyond what is considered the most critical age. In practice, however, it is found difficult to induce this lengthened stay, the actual expediency of which must depend so much upon individual circumstances. In addition to the gratuitous pupils, others are taken, who pay in part or entirely for their education. In summer, the time occupied in labor is from eight to twelve hours per day, and in instruction from two to four hours. In winter, the amount of labor is less, and of study more. During the time of harvest and hay-making, the instruction is omitted altogether.”

In winter, the hours not devoted to the care of cattle, threshing, and other farm labor, are employed in the agricultural machine shop, in making baskets, straw mats, in selecting seeds and in breaking stone for repairing roads. The pupils are encouraged to labor on their own account. Each has a small portion of land for the culture of vegetables and flowers, the profits of which are his own.

As an example of *incidental* instruction, we subjoin the following:

“In laying out the ground for different crops, for planting, or for spreading manure, care is taken in determining the points, in drawing the lines parallel, in measuring the distances, and the intervals of the plants with the eye or by paces. The number of plants or heaps of manure is calculated, and the whole is a lesson in geometry and arithmetic, as well as an exercise of accuracy and foresight.”

“In cutting the trenches for watering an artificial meadow, the level of different portions is observed by some; others trace the lines in such a manner that the water shall perform the circuitous route necessary to supply the whole of a given space without descending below its level; and others still place the sluices necessary to prevent excess in one part or deficiency in another. All these operations are practical lessons upon the laws of gravitation, and are often employed in the most striking manner to lead the pupil to the existence and influence of this universal agent. If the pupils are engaged gathering the stones out of the fields, these become the subjects of examination, first in reference to color, hardness and texture, then the uses to which they are respectively applicable, and finally their name, either in the moments of rest, or in some of the lessons of the day. The instructions thus received, are recalled almost involuntarily at every fresh operation of the same sort; and such associations serve to divest this lowest of agricultural occupations of its purely mechanical character.”

“If they are clearing the ground of weeds, the name, characteristics and qualities of each one are made the subject of remark. The relative effect of sun and air and moisture and cultivation, upon these plants, and those of a useful nature, is necessarily brought to view by the observation of the pupil, and by the instructions given him, and inferences are then drawn as to the best mode of exterminating them.”

The intermediate school was established to supply an education for the sons of the “middling classes,” in a style correspondent to that of the parental roof. Free from the glare and show that frequently attach themselves to boarding schools, and give the pupils fondness for fashion and extravagance, that ill comports with home notions. Farm labor, however, forms no part of the course.

The success of Hofwyl led a number of wealthy friends of agriculture in the north of Ireland, among whom was Earl Spencer, to project a similar establishment there. This led to the Institute at Templemoyle, 6 miles from Londonderry. Believing that similar benefits would accrue, it was proposed, as at Hofwyl, to establish both a Literary and an Agricultural College.* This was abandoned after much expense had been incurred, and the energies of the Company directed to the latter. It is not, however, a school for special instruction, since the English branches and mathematics are taught in connection with the principles and practice of agriculture. Pupils are received from 15 to 17 years of age; and 3 years are considered sufficient to complete the course. In 1837, 66 young men were preparing themselves for the thorough management of farms. The annual charge for maintenance and tuition (about $50,) is not sufficient for their support. For convenience, the pupils are divided; one half being with the teacher, the other in the fields; thus working and studying alternately. Ten hours a day are thus appropriated.

“The direction is vested in a committee of the subscribers, each of whom pays $10 per annum, and who alone have the power of proposing pupils. The immediate control is divided between the Agricultural Master or farmer, who regulates the agricultural affairs, the School Master who divides the time of pupils with the farmer, and the Matron who has charge of the domestic economy of the establishment under the direction of the farmer and instructor."

---

* For an acquaintance with this distinguished man and his noble undertaking, the English reader is mainly indebted to Rev W. C. Woodbridge, Editor “Annals of Education,” to Prof A. D. Bache, in his able Report to the Councils of Philadelphia, on Education in Europe, and to “Letters from Hofwyl, by a parent,” London, 1842. From these authorities we have freely quoted.

* To establish the schools, one hundred and sixteen shares of $125 each were subscribed by different Companies and individuals, and $6,000 were subsequently subscribed for the erection of the buildings at Templemoyle. Various other donations have been made.—[Bache's Report.

The school at Templemoyle is a most gratifying example of what may be done by a few ardent friends of the farmer *without Legislative aid.* On a farm of 150 acres, and with a system whose details are marked by great simplicity, an Institution has been formed, of the highest practical benefit. The advantages derived during the 27 years of its existence have enlisted the entire community in its favor; and seldom have we been more gratified than in hearing the encomiums passed upon both school and pupils by former residents of the neighborhood—a gratification of course mainly derived from the anticipation that thus encouraged the farmers of our beloved country would be quick to furnish their own sons with similar instruction here.

Class 2d. Schools for special instruction.

As an example of what has been done, and shall we not say, may be done? when Agricultural Societies, aided by government, exert themselves, "The Agricultural Institute of Wirtemburg," is well deserving a notice. This was founded in 1817 by the Agricultural Society of Wirtemburg, under the patronage of the king, who devoted a royal seat with extensive buildings to the purposes of the Institution. There are two departments—in the higher, the object is less the acquisition of manual dexterity in the operations of agriculture, than the knowledge required to superintend them; while in the lower, the practice is the chief end. In the higher, for tuition natives pay $40, foreigners $120 per annum; and for meals, &c., paid in advance to the Steward, $40. In the lower, natives are admitted gratis, if their circumstances require it, otherwise $40 for three years. The officers are appointed by the Agricultural Society. The Director is an instructor; there are also a treasurer, 4 regular and 4 extraordinary professors, besides an overseer and steward; number of students in 1837 was 99. Applicants for admission must be 17 years of age, and possess the necessary qualifications for the prosecution of the course. The pupils of the lower school are engaged in operations on the farm, garden, &c. They also attend certain of the lectures given to the higher classes, and receive instruction when not engaged in labor. They are paid for work done, by which they are enabled to defray the expense of maintenance. Those who display great skill and industry, receive premiums.

The agricultural course of the higher school generally requires two years. The same period is required for that of *forestry.*

Branches of special theoretical instruction:

1. *Agriculture.* General principles of farming and horticulture, including the culture of the vine, the breeding of cattle, growing of wool, rearing of horses, raising of silk-worms, arrangement and direction of farms, estimation of the value of farms, book-keeping.

2. *Forestry.* Encyclopedia of forestry, botany of forests, culture and superintendence of forests, guard of forests, hunting, taxation, uses of forests, technology, laws and regulations, accounts, and technical correspondence relating to forests.

3. *Accessory branches.* Veterinary art, agricultural technology, especially the manufacture of beet sugar, brewing, vinegar making and distilling. The construction of roads and hydraulic works.

General courses:

1. *The Natural Sciences.* Geology, physiology of plants, botany as applied to agriculture and forestry, natural history of animals beneficial or noxious to plants and trees. General chemistry, and its applications to agriculture, physics and meteorology.

2. *Mathematics.* Theoretical and practical geometry, elements of trigonometry, arithmetic, elements of algebra.

The farm of 960 acres is thus divided; arable land 501; meadow, 242; fields set apart for experiment, 33; woodland, 13; nursery, 67; hop plantation, 2; botanical garden, 14; ground for pupils in plowing, 2; garden, 1; otherwise appropriated, 85.

For the further advantage of pupils, the arable land is cultivated according to five different rotations; a large stock of cattle of different breeds, foreign and domestic, and of sheep are kept; agricultural implements are made in a work-shop attached; collections of seed are made for lectures and sales—useful seeds are distributed throughout the country. There are collections of soils for analyses and lectures; philosophical apparatus, library and laboratory; also a cider press, beet sugar manufactory, brewery, distillery and vinegar manufactory.

We have already extended this article much beyond our intended limits. We have written that the reader, knowing what has been done, may be the better enabled to form a tangible idea of *what he should assist in doing,* viz: *blessing our country with like Institutions.*

Philadelphia, July, 1844.

LETTER FROM RICHMOND

Of Staten Island, New-York, to his friend Solon Robinson, *of Indiana. Dated at Oakland Farm, July* 4, 1844.

Dear Sir—I have been some time in your debt, and I now set down to discharge the obligation, by answering your last agreeable letter. In this part of the country, the season has been favorable, the crops in general look well, and the in-gathering has commenced earlier than usual. Although in the midst of harvest, I am enabled to devote a portion of the day to you, because my farm laborers have been allowed to absent themselves and partake of the festivities and amusements of our national anniversary at a neighboring village. The day is delightfully clear, cool and pleasant, and all nature puts on a smiling aspect. When I look upon the fields teeming with bountiful crops, and the whole country blessed with peace and plenty, I feel that we ought to be very thankful to the "Good Supreme,"* who hath placed us in this favored land, and rewarded our labors with abundance.

In your last letter, (Cult. for March, 1844, p. 92,) among other remarkable facts in relation to the western lands and prairies, you mention a cause of sickness in the wooden curbs of wells. This is doubtless the case, and permit me to point out the remedy, which may be easily applied. If the lower section of the curb, beneath and above the water, was completely burnt or charred before being sunk, it would preserve the wood and sweeten the water. Within my memory, no vessel going on a long voyage, could preserve the water pure and free from the smell and taste of sulphuretted hydrogen, which also produces the bilge water effluvium from the hold of a ship. Water contained a length of time in casks of sound oak wood, will nevertheless have a bilge water taste and odor. I recollect some forty years ago being invited on board a vessel returned from a voyage to the West Indies. The captain, as was then the custom, presented his bottle of Jamaica spirits which was mixed with water so nauseous from the bilge water smell, that I could not drink it. I was laughed at as a land lubber, for not being able to stomach the mixture. The captain and crew from habit were unconscious of its unpleasant and unwholesome qualities. Sickness sooner or later follows the use of such water. I could point out some remarkable cases of sickness on ship-board, of fevers and scurvy, from the drinking of similar foul water in former times. But this is unnecessary, as the subject is now well understood, and the evil is remedied by charring the inside of water casks. The same process applied to your wooden curbs, would have the same effect, but they should be charred inside and out. This may be done by burning brush, straw, or prairie grass in and around the curb until it becomes completely charred, and then it will last for ages. A swab with water as used by coopers, can be applied to prevent burning too deep.

One other means of promoting health in the families of your western settlers and log cabins, would be to whitewash the houses and fences. I presume the article of lime can be procured, as I know limestone abounds in all the country around you. Applying a white color to houses in the country, either of white lead or white wash, makes an agreeable contrast with the surrounding green of the grass and trees, and gives an air of elevation and liveliness to the scene. I remember being impressed with these ideas, when in my younger days, I first traveled through your native State of Connecticut. In passing north from Hartford, the scene suddenly changed, and the houses and barns were either not painted, or painted with a dingy red or ochre color, and upon inquiry I found that I had passed the State line, and was in Massachusetts. This kind of paint gives a dirty and sombre appearance to buildings. Whitewash is a cheaper application than white lead, but then it is sooner and easier applied, and must be annually renewed. The renewal however, promotes the healthiness of the locality where it is applied. On this Island, some of the inhabitants, rich and poor, whitewash their houses inside and out, and you may see barns and other out-houses, and long lines of fences about gardens and along the public roads subjected to the same treatment. It promotes cleanliness and health, and preserves the wood to which it is applied. To prevent its being washed off by rains, I slack the lime with hot brine, or boiling salt water.

---

* "Father of light and life, thou Good Supreme."—Thompson's Seasons.

The want of fencing timber to enclose farms upon your western prairies, caused me, in a former letter, to propose the propagation of forest trees for shade and fencing. The yellow locust tree you say is indigenous there. I also named the red cedar (Juniperus Virginianus,) because I had seen in one of the volumes of the Cultivator an inquiry for the seeds to be planted on the prairies, and I could furnish you with them. Since you have the locust, why not propogate it from the seed, and in a short time, portions of the prairies will be timbered with a valuable tree, and one easily raised.

But at present, as you have not the timber, farms might be enclosed and divided into lots by earthen sodded walls. Some years ago I employed an Irishman who divided a field by such an embankment. Taking off the sod in the line of his wall, three feet wide with a spade, he laid the square portions on one side, and then dug a trench, heaping the contents on the other, and when of sufficient height, covering the mound with the sward.

Thus, on your prairie lands, where there are no obstructions from rocks or stones or stumps, and where the sward is matted together by many roots, such enclosures may be easily effected. Now suppose a site selected for a house on a prairie, and one or two acres for a garden and out-houses, thus enclosed, and locust seed or acorns, or chestnuts or walnuts, planted on the embankment. In a few years a growth of young trees would surround the premises, add utility to beauty, and tend to fix your nomad or wandering population, and lead to other permanent improvements. But these, I apprehend, are remote, as long as so much new land lies still farther west, which will entice the adventurous pioneers until the Pacific ocean arrests their course. Substantial improvements cannot take place with a moving population. Farmers must have stronger local attachments to effect such improvements, and induce others to unite with a laudable pride in making the country to smile with an improved and flourishing agriculture.

But under existing circumstances, the prairies would probably be turned to best account in raising sheep and cattle, converting the grass into beef and wool. Those animals, however, reserved for domestic purposes, as a few sheep for mutton, and cows for their milk, if kept within enclosures, would prevent the necessity of hunting them up in the distant woodland or on the naked prairies, or going without milk and cream as related in your last letter, (Jan. 20th, 1844.)

After the enclosure by earthen embankments of the house, barn and garden, as proposed above, would it not be advisable to extend them and make a number of enclosures of several acres each in extent, about and near the dwelling-house, that the milch cows and calves and sheep should be within a reasonable distance, and easily driven up when wanted, and as the pasture became short in one field, to be turned into another, while the herds of larger numbers were allowed a wider range ?

The farmers in these parts, where land is dear, labor high, and produce low, complain that they are undersold in their customary markets by the abundance of agricultural produce pouring in upon them from the cheap lands and rich soil of the teeming west. This, though a general blessing, is in some cases a local injury. My neighbor who was so skeptical about your cultivating in one field 500 acres of wheat or Indian corn, is now inclined to sell out and go west. He is much discouraged with toiling from year to year and not going ahead. He raises an ample amount of grass and grain for home consumption, but for several years past, if he wanted to sell any of his produce, the price was so low that it did not pay the cost of labor and manure. He would take the Cultivator if he was settled in his mind whither he should go. His land is worth $100 an acre, but he will not readily find a purchaser who would occupy it for mere farming purposes, at the present price of agricultural productions; but for an amateur farmer it would be an eligible location on account of its elevation, gradual slope to the water, and its beautiful and commanding sea prospect.

Farewell for the present. I won't vote for John Tyler, because, among other reasons, he improperly turned you out as Post-Master, a situation in which you was doing more good to the cause of agriculture, than he in all his administration. Again I say farewell.

RICHMOND.

SCIENTIFIC EXCHANGES FOR FARMERS.

MESSRS. EDITORS—No class of the community would probably be more benefited by a general system of exchanges in works of nature and art, than farmers. Besides being the largest class, and as individuals equally interested with any other, in general improvement, their profession leads them more directly and practically than any other, to operating among the works, and of course, by the laws of nature. Among the almost endless variety of specimens in the vegetable kingdom, which might profitably be articles of exchange, seeds would be among the most instructive and useful; and certainly not less so to the farmer than the botanist. Nor would his interest be confined to the seeds of plants which are, or may be cultivated. As it is frequently useful to know our enemies, farmers would often be benefited by a more perfect acquaintance with plants which annoy them. A knowledge of the classes, or *natural families* of plants, is exceedingly useful to farmers. This can only be acquired by an acquaintance with individuals, in their different relations, and especially in their fruit or seeds.

As an example of the ease and extent to which exchanges in such specimens, may be instituted, a proposal, a year or two since, in some paper or papers, for young people in different parts of the country to collect the seeds of plants, embracing forest trees, fruit trees, weeds, &c., brought a collection of some thirty kinds from a lad in Ohio, to a gentleman in Philadelphia. With the seeds were specimens of the leaves directly, or impressions of them made by himself, using the smoke of a lamp for the ink, and his hand for the press; an excellent process by the way, for conducting agricultural exchanges, to some considerable extent. The process is so simple, that a child of five years can perform it, and as far as the general texture and shape of the leaf is concerned, the representation is more correct, than can be made by any drawing or engraving. The leaf is used as the type for imprinting itself.

In 1785 the government of France sent two men, the elder and younger Michaux, to this country, where they were employed for eleven years, principally to ascertain what trees and other vegetables found here, could be introduced to advantage into that country. It is perhaps not less interesting for American farmers to know what plants from different parts of the world, could be introduced here for their cultivation. And it must surely be evident, that the most instructive, economical and complete mode of ascertaining this fact, is by a system of exchanges with all parts of the world, in plants, with other specimens, both of nature and art.

In no department of agriculture, probably, have greater improvements been made within a few years past, in none perhaps, are so great yet to be made, as in manures In many instances, inexhaustible deposits, before supposed to be useless, have been rendered instrumental, virtually, in producing a new creation; as they have given to large tracts of land, previously deemed worthless, the value of from fifty to a hundred dollars an acre. Such are the marl beds in New-Jersey, and some other States. Now suppose that specimens of marl and all other fertilizing substances were collected by those acquainted with them, and sent to different Exchange Lyceums, agricultural depositories, or other convenient places for exchange, exhibition, &c., could they hardly fail to lead to the discovery of new deposits of the same, or perhaps different substances, useful to farmers?

Agricultural implements might be much improved, and those already improved, more widely extended among nations, by scientific exchanges. In some of the oldest countries, the plow is to this day, little more than a crotched stick, sometimes improved by pointing it with iron. In Asia Minor, the Islands of the Mediterranean, and other regions which were the fields of the earliest and most interesting events recorded in history, agricultural implements are of the rudest kinds. They contain not only specimens of antiquity, as curiosities, but fertility of soil, variety and richness of natural productions, which if rendered fully available, would not only aid in raising the inhabitants from a state of heathenism and semi-barbarity, but by reciprocating with those advanced in agriculture, in arts, intelligence and Christianity, might give knowledge to others, while they received it themselves. Not long since, some bare-footed girls and boys, collected from the streets of New-York, for and by scientific lectures, given weekly, especially for them, were led to prepare and collect specimens, both of nature and art, which have been sent to different countries, especially to Mexico, and in return, have brought, among other specimens, some Indian curiosities, which have interested and instructed great numbers of our most intelligent citizens. Such exchanges, varied and extended, as easily they might be, and will be, may introduce to Mexico, also to South America, many improvements in agricultural implements, and procure for them some plant, mineral, or other specimen from those countries of mines and of inexhaustible natural resources, to enrich our own fields, both of agriculture and of general science.

But how can such exchanges be commenced and carried out by and for farmers? By means, as simple and direct, as the field is vast, and the enterprise grand and magnificent. If it can be instituted between the street boys and girls in New-York, and the young Mexican Indians, the sons and daughters of our intelligent farmers, can surely find no obstacle in their way. One step they can take, is to pick up, and examine and preserve the first pebble they see, and seek for an opportunity to learn its name and properties. Not unlikely some person may think it a great bargain to give the owner the knowledge he desires, in exchange for a part of the specimen. The specimen, with its name and properties, may then be taken to the school attended by the owner, where some fifty or a hundred others will also know it, and perhaps give for it something brought by them, each leaving a part for the school cabinet. Before they are aware of it, they will have specimens worthy of sending to New-York, Philadelphia, Boston, or some other seaport, whence it may go to Mexico, South America, France, England, Germany, or some other place, bringing in return, other specimens, which may find their way to the school or family, or the hand which picked up the first pebble it met.

This is not only describing what may be, but what has been, in instances too numerous to be mentioned here. Numerous facilities are now enjoyed for extending such exchanges widely and rapidly. Geological surveys are completed or commenced in nearly all the States. By them large collections are made, and much knowledge diffused. These specimens, and this knowledge, may, and ought, and will be used for extending them more widely; and no one step, perhaps, will be as direct, or effective, and certainly no one is more capable of universal application, than that just mentioned. A mineral will lead to a plant, and that to a drawing, and the drawing of a plant to one of an insect, bird, ox, horse, or some agricultural implement, which might be exchanged, greatly to the mutual advantage of Americans and Mexicans, Yankees and South Americans, &c., in addition to a highly beneficial, scientific and agricultural commerce, between the towns and States of our own Republic. Let the word *Begin*, and the thing Begin, be shown by boys and girls in schools and families through our country, and the work of *Agricultural Exchanges*, by the side of a general system of scientic commerce, will be more than half accomplished.

Such, at least, judging from long and large experience, is the opinion of your friend, Josiah Holbrook.

TO THE OWNERS OF THE SOIL.

Messrs. Editors—Now, in the sultry season, is the time to make an impression upon the owners of the soil, in favor of planting shade trees on the sides of our public roads. No one is insensible to the refreshing coolness and enchanting luxury of a drive through a forest; and what man or beast is not delighted to reach a little skirt of wood, behind which to shelter himself from the blaze of a summer sun, even though his journey may be of but a few hours duration. How many there are who own good carriages and horses, that forego the pleasure of traveling with their own conveyance, and betake themselves to canals and rail-roads, because the prospect of traversing shadeless, dusty, or muddy roads, is so cheerless. There would be less labor and more economy in the end, in having good roads the year round, than bad ones, the wear and tear of horses and vehicles over muddy and uneven roads, is one proof; the extra time thus consumed, is another. There has doubtless been labor enough assessed on the highway for the last twenty years to have Macadmized every rod of them had it been judiciously superintended. Why cannot the people feel as engaged in meeting together for the purpose of devising ways and means for improving and beautifying the country, as for a thousand minor purposes. The reason is, because it is merely optional; it can be done or let alone; and letting it alone is the easiest. There is scarcely a man in the State who owns so much [illegible], that he could not in the ensuing fall and spring [illegible] out good forest trees on every line of his farm bordering upon the road, without feeling that he had spent sixpence or lost a day's work, at the end of the year. Instead of seeing farmers taking little jaunts across the country of forty or fifty miles, we see them riding post haste half a dozen miles to reach a rail-road, and are perhaps left in the same predicament—that is, as many miles from their place of destination. It appears to me that farmers should resort to rail-roads only when business compels them to travel faster than horses can carry them, for this reason; while traveling either for business or pleasure, they can enjoy the privilege of viewing the farms of their distant neighbors, noting the prospect of the different crops, and get many useful hints with regard to buildings, fences, water fixtures, &c., and finally, they can take their wives with less expense, than to go alone by public conveyance. One thing more respecting roads; as district schools are becoming so deservedly popular, parents and guardians should see that there is a good side-walk, that their children may get to and from school, with their feet clean and dry; it will save half the distance, and perhaps twice the expense in shape of doctor's fees.

Onondaga County. A Friend to Improvement.

DOMESTIC MANUFACTURES.

To the Committee for awarding premiums on in-door manufactures:—Is it policy to award premiums for paintings, worsted needle work, or work of *any kind* that is merely ornamental? The object of giving premiums, (if I understand the matter) for the best specimens of domestic manufactures, is to promote industry in the *useful* arts, and encourage those to work who perhaps would not without this inducement. There always was, and probably always will be, time enough expended in the manufacture of useless articles, without offering premiums for them. Few ladies are so indolent that they will not perform work of this kind, as the means of passing time, even though there may be at the same time, a sad deficiency in the quantity of bedding, linen, &c., in their houses. Besides, the poor are cut off from competition in this branch of industry, they can neither afford the materials, or the time to learn to use them.

Furthermore, would it not be judicious (when awarding premiums for in-door articles) to consult the opinion of ladies who have been in the habit of manufacturing more or less of the same kind of goods; they certainly understand better than gentlemen can, the difficulty in performing different kinds of work, and the time and expense requisite for the completion of the articles. For instance, the premium on table linen and sheeting, is small, compared with the premiums on flannel cloth, stockings, yarn, &c. No one can understand the difference in the labor required to make a yard of woolen or linen cloth, unless they have actually made both. I should be glad to see this branch of labor more encouraged; the foreign article is too expensive for common use, consequently most families are almost entirely destitute of good substantial linen. A Farmer's Wife.

Onondaga Co., Aug. 1, 1844.

THE LATE DR. SAMUEL L. MITCHILL

Of the city of New-York, and his labors in aid of Agriculture.—No. 3.

Our second number contained an examination of Dr. Mitchill's first address delivered before the old Agricultural Society. His second, before the same body, was delivered at Albany on the 7th February, 1798. In 1792 he was a member of the State Legislature from Queens county, but in 1798 a representative in the Assembly from the city of New-York.

In this second address he adverts more particularly, than in his first, to the subject of manures. Therein we shall find that he has anticipated Davy, Liebig, Johnston and other late writers, by pointing out how azote or nitrogen may become a vegetable fertilizer.

" On the subject of manures (says he) there has been a good deal of valuable experiment and speculation. Mr. Kirwan's excellent pamphlet was forwarded to the Society by a member of the British Board of Agriculture; since which I have been favored by Dr. Dickson, late of Dublin, with the last volume of the Transactions of the Royal Irish Academy, which contains this memoir. On perusing it, there appeared to be one memorable defect; there was very little written on the *azote* (or nitrogen) of the modern philosophers, or the principle of putrefaction as a fertilizing ingredient in soils, or a nutritive material of plants. So considerable an omission appeared to me to deserve a supplement; and accordingly I wrote an addition to the work, on the deficient article, which I have forwarded to the author in Ireland. It is very remarkable that so obvious and well known a substance as this should have escaped the particular notice of agriculturists so long."—Transactions, vol. 1, p. 206.

After an acknowledgment of the receipt of numerous communications from the President of the British Board of Agriculture, Dr. Mitchill again observes,

" Finding in such publications as these and others that have from time to time come to hand, that one of the most operative ingredients in animal and vegetable manures (*azote*) was in a great degree overlooked or omitted by European writers, I deemed it worth the while to inquire into it a little more particularly myself. In this undertaking there has been a development of much new and precious information."

" Fortunately, in prosecuting the subject, the important, though much neglected science of Chemistry, which in my earlier days I had studied with some care, enabled me to labor on through discouraging and seemingly insuperable difficulties. The composition and qualities of soils and manures being only to be understood and explained upon chemical principles, there was a necessity of reviewing what had been done already, in order to comprehend what remained to be done."—Trans. p. 207.

By the means of chemistry then, we learn from him, that " the analysis of corrupting bodies has been more carefully attended to; and of course a more correct idea of the nature and qualities of the manures formed from these, has been obtained. Among other things it has become manifest how the septon (azote) or principle of putridity, is evolved or set loose on the earth's surface."

" On tracing the progress of putrid bodies and their unwholesome vapors from their origin and duration to their decline and extinction, it has been sufficiently ascertained that by means of the vegetable economy, the substances whence offensive and noxious steams proceed, are decompounded or taken out of circulation and manufactured anew into forms replete with organization and life."

" Thus the subject of manures when well understood, explains the occasional epidemic influence of the atmosphere, as well as the growth of vegetables and many of their peculiar qualities; and these again, when fully comprehended, reflect light upon the economy of farming, in their use and application; upon the police of cities, in preventing their baneful vapors from getting afloat in the air; and in the healing art by enabling its practisers to prescribe and direct by sure rules what in a given case ought to be done. These new views of this branch of science, have shown a more intimate connection than ever was before known to exist between *meteorology, farming and physic*."—Trans. p. 209.

Again, it is worthy of notice that this acute observer of nature detected the acidity of manures and soils, and the means of correcting or neutralizing them, showing too, how offensive and deleterious substances may be rendered inert and harmless in relation to the health of human beings and animals, while at the same time they nourish vegetation. Hear what he said on these subjects, as far back as 1798:

" The acid nature of most animal manures and their exhalations, owing to a junction of the principle of putrefaction with a portion of oxygen, is of itself a most interesting discovery. But the inferences from such a fact are of a still more extensive and beneficial kind, and by showing the use and operation of *alkalies*, let us know how they are useful in combining with the acids inherent in the soil, and wafted through the air in a volatile form, and in both cases have a sweetening and neutralizing operation. Hence it may be inferred we are not far from possessing a true theory of lime, ashes, and calcareous earth, and of solving the problem which has puzzled inquirers so long, and which no European writer appears to have rightly understood."—Trans. p. 210.

Thus much from Dr. Mitchill's second address before the old Agricultural Society. In this, he refers to his letter " On Septon," which is published in the volume of Transactions of the Society (p. 245) and though written before his address, it is connected with it on the all important subject of manures. It is headed by the author in the following words:

" On Septon, (Azote) and its compounds, as they operate on plants as food, and on animals as poison; intended as a supplement to Mr. Kirwan's pamphlet on manures. In a letter to the Rev. Dr. Henry Muhlenberg, of Lancaster, Pa., from Mr. Mitchill of New-York, dated October 24th, 1796."

We must here premise that Dr. Mitchill was at this period, (1798) Professor of Chemistry and Agriculture in Columbia College, New-York city; that he had studied Chemistry under Dr. Black, a celebrated professor of that science in Edinburgh (Scotland,) and who was the discoverer of *Carbonic acid gas*, which he called *fixed air*, because he found it fixed or in a solid state in limestone. About the time that Dr. Mitchell left Scotland, with the honors of the University, (1786) the new chemical doctrines and nomenclature of Lavoiser were promulgated, and to him we are indebted for the terms *oxygen, hydrogen, azote*, &c., still in use. When the subject of this communication was appointed to a Professorship in Columbia College, although he had an exalted opinion of Dr. Black, he adopted the nomenclature of the French school as best adapted to convey correct information and precise ideas. In the course of his scientific researches and investigations, however, he suggested several alterations of the terms introduced by Lavoisier, and *Septon* was employed by him instead of *azote*. The irrespirable part of the atmosphere which the French Academicians termed azote, other chemists have named nitrogen, as one of the constituents of nitre, and both are used at the present day. Nitre or salt-petre, is a product of putrefaction, and the azote it contains, Dr. Mitchill named Septon, from a Greek word signifying to putrify. He considered it the destructive agent in producing sickness and death when human beings were exposed to the exhalations of masses of animal and vegetable substances in a state of putrefaction. Septon he considered an elementary substance capable of entering into numerous combinations, and by uniting with oxygen forming *Septic acid*, and this when associated with potash producing *Septite of potash* or common salt-petre.

This explanation is necessary to understand his remarks on Septon as a manure. We may consider the terms *Azote, Nitrogen and Septon,* as equivalent terms. Other chemists have not adopted the word Septon, but Dr. Mitchill made it the agent in explaining his ideas of the action of pestilential fluids and the operation of manures.

Further remarks on Septon or Azote as a manure, must be deferred to our next number, lest we encroach too much on the columns of the Cultivator and the patience of its readers.

Staten Island, July 5, 1844.

We are now, Mr. Editor, in the midst of our harvest, being somewhat earlier than last year. The season has been favorable, and crops look well. Wheat, rye, barley, oats, corn, grass and potatoes all have a promising aspect. I began my hay harvest on the 24th of June, and wheat is this day falling into the cradle, one week earlier than in 1843. Respectfully yours. RICHMOND.

HABITS OF THE CURCULIO.

The late Willis Gaylord in his treatise on "*Insects injurious to the Farmer and Gardener,*"[*] says, "The plum tree, both in its fruit and its wood, seems peculiarly liable to the attacks of insects. The principal of these, is the *Rhynchænus nenuphar,* or plum weevil. Did [this] beetle confine its ravages to the fruit of these trees alone, the damage would be small, compared with what it actually is; since not only the fruit, but the tree itself is frequently killed by them. Every one conversant with fruit, has observed the black unsightly masses that collect on branches of the plum tree, some varieties of the cherry tree, and in some cases in swellings or gummy protuberances on the peach tree. *These are occasioned by the same insect as that which destroys the fruit.*"

This opinion of my late respected friend was not peculiar to him, for the same has been advanced by other writers, though doubtless without sufficient evidence. The curculio had been very troublesome in this vicinity for thirty years before I observed a single excrescence on any plum tree, though I had frequently heard of this malady at the eastward, and was apprised of its advances in this direction. Now to a mind capable of appreciating the force of evidence, these facts must be conclusive against that opinion, unless the curculio has recently acquired this habit.

Circumstances tend to show however, that the curculio has not acquired this habit. I have not observed the "Black Gum" to spare any variety of the plum in my possession, neither does the curculio spare the fruit; but there are many trees on which I have detected this insect in great numbers, year after year, and yet not an excrescence has been produced. What then is the inference? Why, that the curculio never causes an excrescence, though possibly it may deposit a nit in the tumor when it has arisen.

In the same valuable treatise, to strengthen that position by analogy, a remark of Kollar's has been brought forward: that the plum weevils of Europe, *in default of plums,* make use of the soft spring shoots of the plum and apricot trees. So different however, are the habits of different species, that the charge against our little neighbor, must receive very little support from this suggestion; and more especially when plums in abundance, unpunctured by the curculio, are found on the same branches with the "black gum." Here there is no "default;" and it proves clearly, in my opinion, that this excrescence is a different and separate concern, caused doubtlessly by some other insect.

Further,—It is very questionable, if the plum tree is disfigured by the same insect that destroys the cherry tree. It has now been several years since the "black gum" first appeared in this neighborhood; and though I have many kinds of the cherry, including the morello which has suffered so much in the southern parts of Pennsylvania, yet I have never discovered a trace of this malady on any cherry tree in this district.[*] D. T.

Greatfield, Cayuga co., 7 *mo.* 18, 1844.

ANALYSES OF GUANO.

Laboratory of the New-York Agricultural Institute,
University of New-York, Aug. 16, 1844.

The arrival of guano from the African coast, in large quantities, into New-York, has induced the Farmer's Club to require of me an analysis of the article, and remarks upon its value, as compared with that from Peru.

I would have been content with selecting for the Club the analyses given in the Chemical Gazette and Jameson's Journal, had not an inspection of those labors developed a remarkable difference between the African and Peruvian specimens, so great as to call forth a doubt on the part of Dr. Draper and myself as to the accuracy of the examinations. To test the matter, and assure myself on this point, I proceeded to a fresh analysis, and have now the honor of submitting my results to your numerous readers.

Analysis of African Guano.

Oxalate of ammonia,	16.0
Phosphate, muriate and carbonate of ammonia, with animal matter,	12.0
Humic acid,	4.0
Oxalate of lime,	10.0
Phosphate, sulphate and muriate of soda and potass,	8.5
Phosphate of lime and magnesia,	36.5
Silica from the crop of the birds,	.5
Water,	12.5
	100.0

The specimen had a specific gravity of 1.5 and was soluble to the extent of 45 per cent, of a light brown color, and covered with spots of white, increasing in size as the guano became dry—all of which signs indicated its excellence.

The analyses of Dr. Davy, Mr. Francis, and Dr. Ure, are as follows:

	Davy.	Francis.	Ure.
Oxalate of ammonia with muriate, phosphate and animal matter,	40.2	32.89	34 0
Ammonia in a separate form,	——	9.70	9.5
Salts of potash and soda,	6.4	7.08	6.0
Phosphates of lime and magnesia,	28.2	22.32	18.5
Silica,	——	.81	0.5
Uric acid,	——	a trace.	3.0
Water, &c.,	25.2	27.13	28.5
	100.0	100.00	100.0

The point to which I referred as indicating a remarkable difference, is the absence of *uric acid and urate of ammonia,* which are the striking and valuable ingredients of Peruvian Guano. In my analyses, I tested 6 specimens, and could find no trace of those bodies, although incredulous as to their absence; Dr. Davy, (Sir Humphrey's brother,) also made numerous attempts to detect it in many separate examinations, but found it always absent. Mr. Francis was equally assured that it did not amount to 1.100th per cent. In Dr. Ure's analysis, 3 per cent is given, but with due defference to that experienced chemist, I may doubt whether he pursued his inquiry to the production of *purpuric acid,* without which the nature of the precipitate cannot be distinguished from *humic acid,* of which both Francis and myself obtained 3.5 and 4 per cent, whilst Dr. Ure does not mention its occurrence.

If there is a point settled in the varying composition of Guano, it is, that the African variety contains no Uric acid, whilst brown Peruvian contains from 10 to 25 per cent.

This question is not merely of chemical interest—it is all important to the farmer. For these salts, oxalate of ammonia in African, and urate of ammonia or uric acid in South American, severally represent the *expensive* and

---

Transactions of the New-York State Ag. Society, Vol. 3.

[†] Since writing the above, I have been told of a cherry tree infested by the "black gum," some miles from this place. Perhaps it indicates the arrival of the same insect that has been so destructive in Pennsylvania.

to a great extent, the fertilizing ingredients of Guano. But whilst the oxalate (African) is very *soluble* in water, the urate is *is insoluble.*

Hence the farmer who uses African Guano, may expect a rapid effect, but nothing that is permanent beyond crop, whilst the use of the Peruvian in England has already shown its effects to be apparent on a second and third crop.

In practice, analysis leads us to suggest the propriety of recommending the application of African Guano in small quantities, added at short intervals, rather than the use of the whole at once. For instance if 200 lbs. is to be applied to an acre of meadow, let it be divided into parcels of 50 lbs., and each scattered at intervals of a week, after rain or when it is expected. I should also be disposed to add rather less African than Peruvian Guano, in view of the great solubility of the former. The manure should be applied with three or four times its bulk of fine earth.

There are many other particulars interesting to the farmer and naturalist, connected with this difference in chemical composition, which are however, too long for your pages, and will be published (as requested by the Farmer's Club,) in a short Essay, which I will do myself the honor of transmitting to your office.

Yours respectfully, D. P. Gardner, M. D.
Lecturer on Ag. and Analysis in the N. Y. Ag. Institute.

GREEN CORN FOR WINTER USE.

Messrs. Editors—A correspondent in the July number of the Cultivator, inquires concerning the preparation of green corn for winter use.[*]

The following is the manner in which it is prepared in my family, of the merits of which he can judge by experiment.

Pluck the ears of green corn when fit for boiling, strip off the husks and throw the ears into a kettle of boiling water, leave them in until the water boils up over them, when they must be taken out. Shell off the corn by running the prong of a fork along the base of the grain, holding the ear with one end against the breast; this is better than cutting off with a knife, inasmuch as it is more expeditious, and saves all the grain, including the heart or germ, which is the sweetest part.

After being thus prepared, it must be spread out thin on cloths in a shaded, airy place to dry; it should be stirred every day until thoroughly dried. When cooked, it should be put in cold water and boiled an hour or more; the water to be pretty well boiled off. When the water is nearly off, a little milk added to it will improve the taste. Respectfully yours, M.

Shawangunk, July 29, 1844.

THE GOPHER OF FLORIDA.

Editors Cultivator—On page 209 of the present volume of your very valuable paper, I observe an article headed, "To kill Gophers, &c." credited to the Prairie Farmer, with a few lines of editorial, from which it would be inferred you believed the Gopher to be a species of the mole. This surprises me, knowing the Gopher to be an animal peculiar to the south, and have always supposed the word Gopher to be of Creole origin. The word, I apprehend, is unknown to naturalists as applied to an animal of any species, and can only account for the discrepancy in this instance by the supposition of the name being given or understood as applied to two animals entirely distinct in every particular.

The appellation is applied to an animal of the turtle species found south and west of the Savannah river, Ga. (it is worthy of remark they are not to be found north of it) along the Gulf coast within the region of the long leaf pine barren to the Mississippi, and for aught I know, much farther west. It differs materially from the Terrapin common in the west and perhaps throughout the country.

They are usually about ten inches long and weigh from five to eight pounds, very inoffensive and slow in gait, living on grass, and whatever may be found in their rambles of a vegetable nature. Holes are made by them in the earth at an angle of forty-five degrees, sometimes to the extent of ten feet; after arriving to a certain depth however, the avenue is level with the surface of the earth to which they resort for incubation and protection

At Pensacola particularly they are much esteemed as an article of diet, and are preferred by caterers of the mess aboard public ships to fowls of any kind, being equal in flavor and taste, and living much longer at sea. They are caught when hunted and scarce, in pits dug at the mouth of the holes, lined with bark and covered slightly so as to break under their weight. They are never found nearer than a mile or two from any habitation or cultivation. Having wrested the Gopher, which, when well prepared is no mean dish, from the poisonous arsenic of Mr. Sherfry, I might close my letter with a simple expression of kind feeling for you, Mr. Editor, and all lovers of the science of Agriculture, but in justice to Mr. S. will state that his prescription will be well received by the farmers of this country to destroy a little animal very destructive to seeds and roots, of the rat species, called the Salamander. This little pest is very shy, and is rarely seen by man.

Is there not a breed of cattle called the Galloway, without horns? For the sake of humanity, recommend them to J. S. on page 227, to relieve him of such barbarous practices, and your readers the pain of their recital.

Oakey Hill, Florida, 24th July, 1844. G. F. B.

There are four or five breeds of polled, or hornless cattle, one of which is the Galloway. They are considered very good stock, and we *second* the humane suggestion of our correspondent. Eds.

POLITICAL ECONOMY.

Messrs. Editors—Many of your readers must have been greatly surprised by the communication of Dr. Bates, in your last number, calling in question what all the world have heretofore considered a self-evident truth, and one of the great corner-stones of every true system of political economy. It has been the motto of success, whether to nations or individuals, since the world began, and so will be to the end of time.

Your correspondent says there appears to be a "fog" about the matter; and so there is, if his logic be true. But it is more specious than sound, as may be shown easily. He illustrates through a Vermont wagoner; but went no further than suited his theory. Let us go a little further, and suppose the wagoner over-traded; that is, took away some of the ready cash of his town or family, besides the "notions," and brought back groceries to the whole amount, consumed them, and went again, and so kept on exporting, importing and consuming, how long would it be till that town or family came to poverty and want? This would be the inevitable result; and no one would look for any thing else. Now this is a plain case of imports exceeding exports.

But while in his last sentence, he admits the true doctrine, viz. "that a nation or individual who consumes more than they produce, must grow poor," yet calls it a "sophism," "sheer nonsense," &c. when spoken of as imports and exports. What are our exports, but our produce; and our imports, but articles of consumption? The idea is apparently held out that we can buy something which we do not want to consume, which would be another gross violation of one of the first rules of economics, "buy nothing which you do not want."

We are also given to understand that there is nothing so very frightful in having the balance of trade against us; and he intimates that the doctrine is false, that we are 400,000,000 poorer than we should be, because we have over-traded to that amount, as shown by the Treasury tables. Now we have paid for these goods by our labor and consumed them. No doubt they were luxuries, and much more might be put to the same account. Suppose we had practiced a little more self-denial; would not the fruits of that labor be yet in the country? We should have it in some other shape; say, more improved farms more manufactories, and better ones; and a better development of all our natural resources. Would we not be just so much wealthier, and yet possess that which is now consumed and gone. If we had been thus economical, sufficient capital would have remained in the country for the construction of all our public works, and to have taken all the loans for which we are now indebted to Europe. We have certainly been extravagant, and just as certainly are poorer than we should be, Dr. Bates to the contrary notwithstanding.

---

[*] There is a Dutch name for this article, which I do not give because it cannot be spelled in English.

But after all, the whole "fog" in this matter, lies in the question as to the place of valuation. Transportation to market, is part of the labor which gives value to exports. Till this is added, the valuation is not ready to be settled. Dr. Bates does this at home. It should be at the place where he buys and sells. The "wagoner" should do it at Boston. He has then put all *his* labor to his "notions," and is ready to balance the account. This is the universal practice, and is in exact accordance with our axiom, which has been so rudely assaulted and mystified, by changing the place of valuation, and kicking up a dust about "transportation," "ships," "wages of men," &c.

But once more, and I have done. Let a stranger go through this transaction. He buys the "notions" for $100, carries them to Boston, sells for $125, (freight now being added,) comes back with groceries to that amount, sells out for $150, including transportation homeward, profits, wear and tear, &c. He has got back the $100 left there at the start, and the villagers find themselves minus $50 of their former savings beside. They have the groceries, it is true, for that amount, and use them; and thus they have consumed $50 more than they produced, and such, Dr. Bates says, must certainly grow poor; and so say all—but all cannot see how he can thus trifle with the same truth in other words, and raise a mist and "fog" about matters hitherto plain, and thus repel inquiry into one of the most interesting departments of human knowledge, by making it seem a disputed matter.

Hackettstown, Warren co., N. J. A. R. D.

THE CATALPA—TIMBER FOR POSTS.

I never see a Catalpa tree, that it does immediately recall to my mind a fact stated by the late Gen. W. H. Harrison in an Address before the Hamilton county Agricultural Society of Ohio in 1831, that the Catalpa is more lasting than either the locust or mulberry for fence and gate posts. Many portions of our country, new as it is, owing to the heedless waste and profligate use of every kind of timber, together with the utter neglect every where of any measures for re-production, are already nearly without the necessary supply for common fencing. Indeed there are some places where fence timber cannot be obtained except by importation from distant places. As long ago as in 1820, the writer of this traveled through several counties in the middle States, where nothing but boundary fences were thought of, and the public roads were crossed on the line between every two farms, by *gates,* which the traveler was obliged to open and close in passing. These gates were permitted by law, owing to the deficiency of timber for fencing the fields bordering on the roads. It is believed the same state of things still exists in that part of the country. Now in a country like this, such a want of timber ought not to exist. Every owner of land on which there is a scarcity of timber, should plant the several kinds of seeds and take care of the young plants till they can take care of themselves; or permit spontaneous growths to grow, and thus secure the necessary supply of timber. But to the Catalpa. In the address above mentioned, Gen. Harrison said, "The wood of the Catalpa affords perhaps, a more lasting material than either that of the locust or mulberry; is of a very quick growth, and easily cultivated. Its ability to resist decay has been sufficiently tested in the neighborhood of Vincennes, both under ground and in contact with it. Over the little stream of the Desha, five miles from Vincennes, one of these trees had fallen before any emigration had taken place from any of the States, to that place. It was certainly lying there in the year 1785, when a colony of Virginians, from the south branch of the Potomac, emigrated to that place, and for many years served as a foot bridge over the stream. I was informed by a gentleman of undoubted veracity, that it was only partially decayed a few weeks since, (that is in the spring of 1831.) The same gentleman, (Dr. Hiram Dickson,) informed me, that a bar post which was made by his father, and put in the ground at a little stockade work, which was erected in the year 1770, and which has been taken up and removed to his own farm, by his brother-in-law, Major Andrew Powell, is still sound, and answers the purposes for which it was originally intended." The late Col. Philip Tabb of Gloucester county, Virginia, one of the best farmers in that State, also long used the Catalpa for gate posts, and considered them certainly as lasting for that purpose, as any timber he had ever tried. Now the Catalpa can be grown from seed as easily as Indian corn; the seed can be obtained in great abundance, and I know of no tree that grows so rapidly; I have frequently seen plants come up from the seed in the spring, and attain a height of four or five feet the same season; and in three seasons they often grow twelve to fifteen feet in height. In good rich ground, I have no doubt they would grow six feet each season. If planted three or four feet apart for the first three years, they will grow as straight as reed poles. The fourth season they may be set out at proper distances for the formation of timber. Throughout the middle, western and southern States, the Catalpa is perfectly hardy; I presume it is not so in the northern and eastern States. But there is a sufficient inducement in the former for the cultivation of it. On the prairies of the west it would be an invaluable acquisition, the soil and climate being well adapted to its rapid growth, and I am sure there are few subjects to which the attention of our western friends can be called, of more importance than this. It is well known that the destructive borer is rapidly destroying all the locust timber of our country, and a timely and equally valuable substitute may be found in the Catalpa, in the extensive region indicated. So far as my observation extends, no insect whatever attacks it, either in the wood or the leaf. It is also pretty well known that chestnut requires a peculiar soil, and does not generally thrive well except on "chestnut ridges." It cannot be expected that the growth of this tree will be much extended. The white and red mulberry it is true, thrive well every where; but they are nothing like the Catalpa for facility and rapidity of growth, nor are they as lasting, if the opinion of Gen. Harrison be correct. The writer of this is acquainted with one fact in relation to the white mulberry, that shows its qualities as ship timber. The frame timbers of the oldest steam-boat now in the Chesapeake Bay, the *Maryland,* are of white mulberry. There was a large plantation of white mulberry trees near Annapolis, planted it is said by the French refugees. The owner of the plantation many years ago, cut down most of the trees, and they were used in building the steam-boat Maryland. This boat I should suppose, is 25 years old, and I understand her timbers are still sound. G. B. SMITH.

THE BLACK RASPBERRY.

MESSRS. EDITORS—I would advise farmers to set out in their gardens, two or three dozen of the White Antwerp and Black Raspberry, the latter of which may be found wild in many places in this State. They yield a large and beautiful fruit, to be eaten from the bushes, or as a dessert on the table. When cultivated in gardens, they grow very large; the dark red and polished stalks rise from three to six feet from the earth, then bend over in graceful circles to the ground, on coming in contact with which, the end inserts itself in the soil, forms a new root, and sends up a young shoot for fruit the next year; as sweet as the nicest tooth could desire, likewise making an ornamental appearance. The abundance of frui which they produce is astonishing. Mixed with a little cream and sugar, they present upon the table a dish that would do honor to the most exalted guest. Therefore brother farmers, try it, and in a few years you will be richly repaid by your shrubbery. Yours,

Shoreham, Vt., May 20, 1844. DOUBLEYOU.

Instead of spending a rainy day idly, repair whateve wants mending, or post your accounts.

CULTIVATION OF FRUIT—No. IX.

THE PLUM.

Those who have seen only the common varieties of the plum cultivated by farmers in this state, can have but a very imperfect idea of the flavor and excellence of the most improved varieties. When the same labor in cultivation, with a little additional care in procuring fine sorts, would afford the very best fruit, it is to be regretted that ninety-nine hundredths, or even more, of the fruit cultivated, should be scarcely fit for eating. To facilitate in procuring better, the following list, with remarks, is given.

White Primordian, Early Yellow, or *Jaune Hative,* is one of the very earliest of plums, ripening generally in western New-York about the middle of the seventh month, (July,) and is chiefly valuable on this account. It is a small yellow fruit, a good bearer, with a sweet taste, though not first rate. It appears to be the best plum at the season.

Wilmot's Early Orleans.—This is a large fine fruit, ripening early in the eighth month (August.)

Green Gage.—This is generally admitted to be the finest of all plums; the genuine fruit is of medium size, and round; the stalk half an inch long, a little bent, and inserted in a small funnel-shaped cavity; the skin is yellowish green, when fully ripe nearly yellow, *mottled* with russetty red near the stem; flesh melting, separating imperfectly from the stone, juicy, sugary, and of exquisite flavor. There are many varieties cultivated in this State under the name of Green Gage, which appear to have originated from stones of the genuine variety, but are greatly inferior in flavor. There are other varieties of a small green plum, scarcely worth cultivating, which are frequently found in the gardens of our farmers, and are also denominated the Green Gage, though they no more resemble the genuine fruit than the wild crab resembles our finest varieties of apples.

Prince's Imperial Gage was obtained from the seed of the Green Gage; the fruit is much larger than that of the Green Gage, and the tree is very productive. Manning says that this is "the most productive and profitable of all plums." Kenrick says, "a single tree of this variety at Charlestown (Mass.) owned by S. R. Johnson, has for several successive years yielded crops which were sold at from $40 to $50 per annum." Some trees in western New-York, called by this name, are not genuine.

Orleans.—Fruit nearly round, middle sized or rather large, skin reddish purple, flesh yellow, firm and good, separating freely from the stone. An excellent fruit, ripening about the time of the Green Gage.

Gifford's La Fayette, figured and described some years ago in the Genesee Farmer, was obtained from the seed of the Orleans, and is an excellent fruit, remarkable for the richness and sprightliness of its flavor.

Huling's Superb.—Fruit very large, often two inches or more in length, not inferior in richness, but more acid than the Green Gage—of very vigorous growth, and of extraordinary excellence.

Washington.—Fruit oblong, very large, orange yellow, with a fine blush next the sun; flesh yellow, firm, sweet, and excellent. Though the flavor of this is inferior to that of some other varieties, it is highly esteemed as a first rate plum. Ripens about a week later than the Orleans.

Imperatrice.—A good plum, ripening in the tenth month (Oct.) One of the best late plums.

Coe's Golden Drop.—Fruit of large size, skin golden yellow, spotted with rich red next the sun, flesh yellow, sweet and delicious. Like the preceding, slightly necked next the stem, a clingstone, and a great bearer. The best late plum. The writer has measured them more than 2¼ inches long.

The Egg Plum, or *Yellow Magnum Bonum.*—Is a very large plum, of a sweet agreeable flavor, but as the texture is rather coarse, is chiefly used for cooking and preserving. The same remark applies to the *Red Magnum Bonum,* which is harsh and acid. These two are admired as table fruit where finer varieties are unknown.

The plum is propagated by budding or grafting. The former can only be successfully practiced on the most thrifty stocks.

The principal enemy to the plum is the *Curculio.* This is a small insect with an elongated thorax and head which resembles a proboscis in appearance. The whole insect is not more than a quarter of an inch long, of a dark brown color, the sheaths covering the wings, slightly variegated with lighter colors, the body resembling in size and appearance a ripe hemp seed. About the time the fruit attains the size of a large pea, it commences its work of destruction. It makes a small incision in the young fruit and lays its egg in the opening. Its presence may now be perceived by examination, as these crescent-shaped incisions are very easily seen. The egg soon hatches into a small white worm, which penetrates deeper and feeds upon the fruit, causing it to fall prematurely to the ground, or if it ripens, it is unsound and gummy. The worm, when the fruit falls, makes its way into the earth, where it remains through winter, as is supposed in the pupa state, to be transformed the succeeding spring into a perfect insect and thus to perpetuate its race. Several expedients have been proposed and tried, to destroy it or prevent its ravages. The easiest and most effectual is that of confining a sufficient number of swine with the trees, to eat all the injured fruit which falls, in doing which, they destroy the worm before it can escape to the earth. The crop of the succeeding season will of course escape. When this has been pursued perseveringly and thoroughly, it has proved completely successful. In one instance, known to the writer, the plum trees bore well for seventeen successive years. To render this operation easy and effectual, all trees which are liable to attacks of the Curculio, should be planted separately, so that they may be enclosed apart for the confinement of the swine, which if permitted to range the whole orchard would not do the work so effectually.

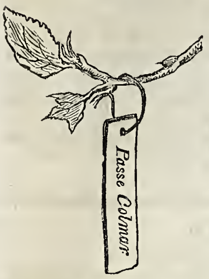
But swine cannot always be admitted, and it is also desirable to preserve the fruit of the *present* season. In this case, the best remedy is the following. Spread white sheets under the tree, and jar it briskly. The insects immediately drop upon the sheet, and remain motionless a few seconds, during which time they may be destroyed by a pinch of the thumb and finger. While lying upon the sheet, they are not readily distinguished by an inexperienced eye from the withered blossoms. The operation should be repeated twice or three times a day so long as any remain. This remedy rarely fails if thoroughly and unremittingly pursued. The importance of *jarring* the tree strongly, will be perceived by the following statement of a correspondent in the Genesee Farmer in the second volume. "Not three days ago, I saw that many of the plums were punctured, and began to suspect that *shaking* the tree was not sufficient. Under a tree in the remote part of the fruit garden, having spread the sheets, I therefore made the following experiment: On *shaking it well,* I caught *five* Curculios; on *jarring it with the hand,* I caught *twelve* more; and on *striking the tree with a stone, eight* more dropped on the sheets. I was now convinced that I had been in an error; and calling in the necessary assistance, and using a hammer to jar the tree violently, we caught in less than an hour, more than two hundred and sixty of these insects."

Trees near path doors and other frequented places, are frequently observed to be full of fruit, while others are all destroyed. The insect is frightened away from the former, by frequent passing. Hence favorite trees of the plum, nectarine or apricot, may be often planted to advantage near such frequented places, and the fruit will escape. The black excrescences on the branches of the plum may be prevented by a constant and vigorous excision of the affected parts, and burning them as fast as they appear.

The plum is by some cultivators regarded as only fitted for heavy or clay soils; and some striking instances are given in proof. But the writer has seen trees in abundant bearing year after year, and yielding fruit of the finest quality, on light or sandy soils. A porous earth may possibly furnish a better retreat for the curculio; but to what extent this may be true, requires further examination. J. J. T.

Macedon, 8 *mo.* 15, 1844.

LABELS FOR STANDARD FRUIT TREES.



Great convenience is found, in large collections of fruit trees, in permanent names of the variety attached to each tree, and various modes of marking have been adopted. The best we have used, is a small slip of wood, two or three inches long and half an inch wide, suspended by a wire loop to one of the horizontal branches. The most suitable wood is red cedar; a block of it should be bored through one end with a small gimlet or carpenter's bit, so that when afterwards split into labels, a hole is left at the end of each for inserting the suspending wire. The best way to mark the name is to rub on a little white lead paint with the finger, and write immediately with a black lead pencil, which will last many years. Copper wire is best for the loop—it should not be less than a large pin or the fortieth of an inch in diameter. If of much less size, it will be repeatedly bent by the rattling of the label in the wind, and finally crack off. Iron wire soon becomes rusted, and brass is too stiff. A piece of wire seven or eight inches long should be attached to each label; and if placed on a small branch, it will be many years before the wire, by the growth of the branch, will cut into it. Twenty-five cents worth of copper wire will be sufficient for one hundred and fifty trees.

Metallic labels, with stamped letters, are more duralbe, but are attended with more cost and trouble. We have those made of wood as just described, which were marked five years ago, the letters still remaining distinct, although the paint and a part of the wood around the letters have worn away. J. J. T.

THE ROCK RIVER COUNTRY.

Messrs. Editors—When I reflect and compare the great advantages, this Rock River country holds out to settlers who seek to better their position, it is a matter of surprise they go elsewhere in the west, while there is room in this fertile region, with an admirable climate both for comfort and health. Here there are no overflowing floods nor baneful diseases to mar their prospects. The roads are always good and crops never fail. The present season is in proof, during which we have had about 50 days rain, (pouring liberally most of the time) out of 90 days—yet the crops are good in quality, and only reduced 25 per cent. of a fair average in quantity. The land is of the richest kind, lies elevated with gentle slope, rolling, &c. Persons of all tastes may be gratified in choosing their *locations*—so may be those who seek only the useful, as well as those who seek the beautiful, and they may be admirably combined in large or small farms. For persons of taste and wealth, who would seek pleasure in retirement in the richest and most seductive country on the globe—here is the spot to gratify their desires and amuse themselves with agricultural pursuits, raising of sheep and other stock (at an annual cost of less than one-quarter of what the expenses are in the old states) and eventually leave rich inheritances to their children in the improved farms, and the greatly increased value of them, that will take place ere ten or fifteen years have passed. Then the sports, field sports I mean, and fishing in our beautiful river, well stored as it is with a great variety of good fish, and above all the *liberty* one so rationally enjoys here, with rides and drives over the verdant and smooth prairies, uninterrupted with fences or even tracks, inhaling increase of health and spirits every moment. Indeed the winds here are more delicious than the land breeze of the tropics. Come and see. W.

Cattle-Shows and Plowing-Matches—A communication from Mr. Milo D. Codding, of Rochester, on the subject of the regulations to be observed at cattle-shows and plowing-matches, came too late to admit of an insertion in the present number. We regret that it did not reach us a few days sooner, as the occasion for its publication will have passed away, before the issue of our next number.

DEVON CATTLE.

HAVING had frequent enquiries last season for Devonshire Cattle, I now have the satisfaction to state, that I can accommodate those who wish, with some good Calves, Yearlings or Two-year-olds, Bulls or Heifers. E P. BECK.

Sheldon, Wyoming Co., July 1844.—2t.

KENTUCKY BLUE GRASS AND HEMP SEED.

GEORGE, LAPPIG & CO.

Seed and Agricultural Merchants, Louisville, Kentucky,

KEEP constantly on hand a good supply of Kentucky Blue Grass and Hemp seed, which they are willing to sell to eastern dealers on favorable terms. They are also dealers in Millet, Clover, Timothy, Orchard Grass, &c. july—2t.

GREAT SALE OF ELECTORAL SAXON SHEEP.

THE undersigned will sell at vendue the two flocks of *Pure Electoral Saxon Sheep*, belonging to the estate of the late Henry D. Grove, as follows:

1. That at Grainger, Medina co., Ohio, consisting of about 400 sheep, on the farm now occupied by them, on the 30th of *September next.*

2. The home flock, at his late residence in Hoosick, Renselaer county, N. Y., consisting of about 350 sheep, on the 15th of *October next.*

A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool from which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with of equal fineness. SAM'L LAWRENCE.

Lowel, April 9, 1844."

Terms of sale, cash.—Reference, Sam'l Lawrence, or either of the subscribers.

Buskirk's Bridge, April 20, 1844.

ELIZA W. GROVE,
W. JOSLIN,
myl.—5t. S. A. COOK.

FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at his long established Seed Store, a supply of the best quality and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, Red Top, or *Herd's Grass, Orchard Grass,*
Lucerne, or *French Clover, White Clover,*
Trefoil, Kentucky Blue Grass, &c. &c.

Also, the different varieties of Wheat, as White Flint, Red Chaff, Mediterranean, and English—for sale in lots to suit purchasers at moderate prices, by ISRAEL RUSSELL,
Feb. 1, 1844.—mar. oct. 26 Front-street, New-York

N. B. The following description of some superior English Wheat sown in the month of October last, the product of which will be for sale at the above Store, is given by a respectable English farmer in the State of New-Jersey, who sowed about eleven bushels, a sample of which can yet be seen. "It is called the Uxbridge White Wheat, and is the most noted Wheat they have in England, it being of fine quality, always commands a high price, as the flour is used by the biscuit bakers in London; it is great for yielding, and puts out a much larger ear than any wheat I have seen in this country. I saw when in England, three years ago, on my brother's farm in one field, 120 acres, that yielded 40 bushels and upwards to the acre. It grows very strong, and is not liable to be laid by heavy rains. I will warrant it free from any soil whatever. I did not see in the eleven bushels, a particle but Wheat; and I have sown it on Clover seed, on purpose that there shall be nothing but Wheat; and I will put nothing in the barn with it, so as to put it beyond the possibility of a doubt of its having any thing in it or getting mixed with other Wheat, which through carelessness is often the case. I have grown a great deal of it myself in England, and know from experience that for yield and quality, there is no Wheat to compete with it. Its general weight is from 64 to 67 lbs. per bushel. It is smooth chaff, and easy to thrash, which is not always the case with smooth chaff Wheat."

☞ **ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion.**

CONTENTS OF THIS NUMBER.

Agricultural Institute, New-York, 274.
Agricultural Institutions, 286.
Bermuda Grass, 278.
Buildings, Plans of, 272, 282.
Biography of Dr. Mitchell, 290.
Butter, new way of making, 268.
Cattle Shows this Season, 269.
Cotton Crop, &c., 266, 285.
Caledonia County, Vt. 273.
Crops in Maryland, 274.
Corn Stalks, to cure green, 271.
Cattle—History of the Bullock, 276.
Clover as a Fertilizer, 276.
Charcoal, its Properties and Action, 283.
Committees at Fairs, 289.
Curculio, Habits of, 291.
Catalpa for Posts, 293.
Experiment with Charcoal and Salt, 269.
Entomology—Dragon Fly, &c 277.
Fruit—New Varieties, 266—Culture of, 294.
Foreign Intelligence, 268.
Farmer's Clubs, &c. 269.
Good Advice, 295.
Geological Survey of N. York, 266.
Guano, Analyses of, 291.
Green Corn for Winter Use, 292.
Gopher of Florida, 292.
Horses, to prevent jumping Fences, 279—Big Head in, 270.
Hedges for the South, 270.
Improving Land by Green Manures, 270.
Letter from Mr. Colman, 267.
Letter from Mr. Norton, 267.
Lucerne, Culture of, 273.
Letter to Solon Robinson, 287.
Liming Land, 270.
Labels for Fruit Trees, 295
Monthly Notices, 265.
Mississippi—Letter from T. Affleck, 278—from J. J. McCaughan, 265.
Mixing Soils, 276.
Manuring, New System of, 281.
Night Soil, 266.
Naming Animals, 283.
Notes of a Trip to Lowell, 284.
Prairie Farm House, 272.
Political Economy, 292.
Plums, Culture of, 294
Plows—Trial of American and English, 269
Rye, Culture of, 275
Reclaiming Wet Lands, 271.
Roads, Importance of good, 289.
Raspberry, Black, 293.
Rock River Country, 295.
Spinning on Boston Common, 295.
Sheep Racks, 275.
State Cattle Show, 273.
Sandy Loam, improvement of, 273.
Swine—Diseases of, 274.
Sour Soils, 279.
Sowing Machine, 268.
Sheep—Mr. Sanford's Buck, 290—Mr. Avery's, 280—A Challenge, 282—Mr. Grove's, 270—Letting Rams, 268.
Scientific Exchanges for Farmers, 288.
Tea Kettles, to Prevent Coating with Lime, 266.
Urine, Value of, 270.
Wool—Samples of, 265—Sales of, 270, 280—Yolk of, 285.
Wheat—Culture of, 275—to Prevent Smut in, 272—Best Time for Cutting, 282.

ILLUSTRATIONS.

Prairie Farm House, 272.
Mr. Sanford's Buck, 280.
Plan of Dwelling-House, 282.
Horse Barn, 282.
Label for Fruit Trees, 295.

A FARM FOR SALE.

A VALUABLE FARM of 198 acres, situated in the town of Seneca and county of Ontario, State of New-York, in view of Seneca Lake and the flourishing village of Geneva, about two miles distant from both, from whence are daily communications by railroad and canal with Albany. The neighborhood is of the first respectability, the farm being principally surrounded by the estate of the late Gideon Lee, Esq., and the estates of the Messrs. Nicholas, the location is surpassed by none in western New-York. The land is of the best quality, adapted to grain and grass; not an acre but can be put under the plow; about 160 acres are perfectly clear and ready for the plow without a moment's detention; the balance is in wood, a growth of superior maple, beech, hickory, ash, &c.; the improvements are a good sized two story frame house, with kitchen adjoining; three barns, each forty by thirty feet, sheds, &c.; a well of the best pure water at the door. There is an extensive orchard of fine fruit, and a cider-mill and press. Also, on the north-west corner of the farm is a tenant house, barn, and an orchard of good fruit. If the above property is not disposed of at private sale before, it will be sold at public auction at the Franklin House in the village of Geneva, on the 25th of September next, at 10 o'clock, A. M., by order of the Court of Chancery, to close a mortgage. For further information apply to W. Cox on the premises, or if by letter, post paid, directed to him Geneva, Ontario county, N. Y.

W. COX.

Geneva, August 19, 1844.—1t*

STRAWBERRIES, &c.

WM. R. PRINCE & Co., Flushing, offer for sale, all the forty-eight varieties described and priced very low, in their Catalogue of 1843–4, 33d edition, among which are Swainstone, Garestone, British Queen, Victoria, Black Roseberry, Hovey's Seedling, Prince Albert, Ross Phoenix, Bishop's Orange Myatt's Pine & Eliza, Melon, Keen's Seedling, Elton, Southborough, Downton, Warren's Seedling, Black and Prolific and Green Hautbois, Old Scarlet, Large Early Scarlet, Red and White Wood, and Red and White running and Bush Alpine, &c. Also, these additional new varieties, Crimson Cone, Bishop's Wick, Coul, late Scarlet, Turner's Pine, at $2 per dozen.

Orders not less than $5, enclosing cash, will meet prompt attention. 500 Fastolf Raspberries, very large fruit, and very strong growth, and all other choice varieties. From now till November, the strawberries can be planted.

Prince's Lin. Garden and Nurseries, Flushing, Aug. 9, 1844—2t.

IMPROVED STOCK.

THE subscriber has now on hand and will sell, at fair and reasonable rates, several Durham cattle, consisting of cows, heifers and calves; also two bulls, a cross of the Durham and Ayrshire stock.

SOUTH DOWN SHEEP.—Two yearling bucks, several buck lambs and 16 ewes from 3 to 4 years old.

All letters, (post paid,) will be punctually attended to. Address

C. N. BEMENT,
American Hotel, Albany.

September 1, 1844.

AYRSHIRE BULL FOR SALE.

A THOROUGH BRED AYRESHIRE BULL will be sold by the subscriber, at the coming State Fair. The animal is in excellent condition, rising six years old, handsome color, perfect and gentle. The dam was selected in Scotland from the very best Ayrshire stock.

Any farmer or breeder who is desirous of securing a very superior animal of this unrivalled breed, would do well to look at this animal before purchasing another, as he has been pronounced by competent judges, to be one of the very best in the country.

CHARLES STEEL.

Montreal, Canada E., August 20, 1844—1t.*

LINNÆAN BOTANIC GARDEN AND NURSERY,

LATE PRINCE'S.

Flushing, L. I., near New-York.

THE NEW DESCRIPTIVE and UNRIVALLED CATALOGUE, not only of FRUIT, but also of ORNAMENTAL TREES, SHRUBS and PLANTS, cultivated and for sale, *at reduced prices*, at this ancient and celebrated Nursery, (*the* IDENTICAL *premises known as* PRINCE'S, *and by the above title for nearly fifty years.*)

☞ WITH DIRECTIONS FOR THEIR CULTURE,

may be had *gratis* on application by mail, *post paid*, to the New Proprietors, who will endeavor to merit the confidence and patronage of the public, by integrity and liberality in dealing, and moderation in charges.

WINTER & Co., Proprietors

Flushing, August 31, 1844—2t.*

MOUNT HOPE GARDEN AND NURSERIES,

ROCHESTER, N. Y.

THE proprietors of this establishment. respectfully announce to the public, that their present stock of *Fruit and Ornamental Trees, Shrubs, Plants*, &c. which they offer for sale the coming fall, is very large and fine. The collection of the various fruits, for the garden and orchard, comprises the most popular and esteemed varieties known in Europe or America. The trees are handsome, thrifty and of the most suitable size and age for transplanting, and being propagated by the proprietors themselves with the most scrupulous care, either from bearing trees in their own grounds, or from others of undoubted genuineness, and being in every other respect, until they are sent from the nursery, under their *immediate personal supervision*, they can be confidently recommended to the most exact and scrutinizing cultivators.

The collection of fruits includes 1,000 Pear trees of the best varieties, selected in one of the best fruit nursery's in France, last spring, by one of the proprietors. They are grown on Quince stocks for dwarf pyramids, &c. and are now in a bearing state.

Also, 3,000 trees of the valuable native Apple, the "Northern Spy," one of the best keeping varieties cultivated.

The stock of Ornamental Trees, Shrubs, Roses, &c. is very large, and will be furnished at very moderate prices; where quantities are wanted for ornamenting public grounds, a liberal discount will be made. The collection of Roses includes 1,000 standards, 4 to 6 feet high, of the finest varieties of Province, Moss, Chinese and Noisette Monthly, Tea scented, &c. A large assortment of Dutch bulbous roots will be received from Holland in September, and furnished to amateurs, gardeners and agents on very liberal terms.

It is expected that all orders coming from persons unknown to the proprietors, will be accompanied by a remittance, or that some responsible reference will be given Priced Catalogues will be furnished gratis to all who apply *post paid.* Address

Rochester, N. Y. Sept. 1844—2t. ELLWANGER & BARRY.

P. S. 50,000 seedling apple stocks 2 years old, will be sold at $6 to $10 per 1,000, if application be made immediately. E. & B.

SUPERIOR FARMS FOR SALE.

TWO superior productive farms in Rensselaer county, 2 miles from Hoosic Falls. The farms are about one hundred acres each, and so situated as to be conveniently worked as two or one farm: each having the necessary buildings, and being judiciously divided into pasture and tilled land, all recently fenced with entire new materials in the most durable manner. The land is all of the first quality, and its present state of cultivation would bear a good comparison with any land in the county. These Farms will be sold together or separate, on terms most accommodating as to price and credit. Apply to

Lansingburgh, July 16, 1844. ALEXANDER WALSH.

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to

J. OAKLEY,
No. 75 Nassau street, New-York.

Oct. 1.—tf.

THE CULTIVATOR.

N. ORR sc.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES.

Vol. I. ALBANY, OCTOBER, 1844. No. 10.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

Seven copies for $5,00—Fifteen copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "The Cultivator," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

THE CULTIVATOR.

MONTHLY NOTICES

Communications have been received since our last, from S. Tillotson, Rho, W. Forbes, P. Bellman, Quere, (shall be answered hereafter,) M. Y. Tilden, A. L. Bingham, Alex. M'Donald, Index, C. Mock, A Hearer, J. J. T., G. B. Smith, J. M. Harlan, A Practical Farmer, Brutus, Georgius, L. F. B., D. C. Collins, J. D. F., T. P. of Bermuda, H. C. C. M. D., J. Hartman, H. R. Robey, C. Rich.

☞ The second Part of Mr. Colman's "European Agriculture," will be issued early in this month.

D. W. B., Greenwood, Va.—Your letter of 12th March last, got accidentally laid away with business letters, or the information asked for, so far as we could have furnished it, would have been given.

☞ Information is wanted at this office, of *John W. Robbins*, who sent us a list of subscribers to the Cultivator, from Dumfries, Va., in 1840. Any one acquainted with his place of residence, will much oblige us by communicating it.

Poland Fowls.—A gentleman in Georgia wishes to know where he can obtain Poland fowls, with pure black bodies and white crests. Any person having such for sale, would do well to advertise them in the Cultivator. Our western friends can obtain these as well as several other varieties, we presume, of our correspondent, Mr. H. A. Parsons, of Buffalo, to whose communication in this paper, the reader is referred.

The late Mr. Grove's Sheep.—We trust it will not be forgotten that the sale of Mr. Grove's Saxony sheep, will take place at his late residence on the 15th inst. The opportunity here afforded of purchasing some of the most valuable sheep ever in this country, will be likely to bring many to the sale.

Tall Flax.—Mr. Elisha Barlow, of Amenia, Dutchess county, N. Y., has presented us with a specimen of flax raised by him this season, which is five feet in length, exclusive of root. We have never seen any before so tall. Has any body ?

Early Corn.—Mr. John Townsend, has presented us with a fine sample of corn grown on his farm near this city. It is similar to the Dutton in appearance, and was ripe enough to harvest the latter part of August.

The State Fair.—Believing that such of our readers as were unable to attend the State Fair, will wish to see a full account of it, we have occupied several pages of this paper with its details, illustrated with two beautiful engravings. A complete list of the Premiums awarded, is also given, commencing on page 325. A portrait of Mr. Vail's bull "Meteor," to which was awarded the first prize for the best bull over three years old, was published in our current volume, p. 17. A portrait of Mr. Crosby's bull "Osceola," which received the first prize for two year old bulls, was published in our volume for 1843, page 149.

Norman Horses.—We invite particular attention to the advertisement of Mr. Harris, for the sale of his Norman horses. His imported horse "Diligence," we have often heard commended by those who are considered good judges of horses. His portrait, which we believe is very correct, will be found on page 193 of the ninth volume of the Cultivator.

Merino Sheep.—We have received from Mr. Collins, a reply to Col. Randall's challenge to show sheep and wool at the State Fair, published in our last. As the occasion has passed by, and the reply, and a rejoinder also from Col. R., have already appeared in the "Spirit of the Times," we do not deem it necessary to publish the reply at length. Mr. C. declines the challenge, and says—"I neither give nor accept challenges in relation to my animals, nor make bets upon them." He also says:—"Many gentlemen, among whom were distinguished growers of fine wool, on seeing my imported merino ram, called *Grandee*, and after critically inspecting his fine and *unusually thick*, heavy fleece, intimated to me a very strong desire that he should be exhibited this autumn, at the Poughkeepsie Show. I had accordingly determined to gratify the public curiosity, by sending old *Grandee* to the said Show, wearing his full fleece, which, with that object in view, I had at shearing time this season, left unshorn. The ram would thus have been shown at Poughkeepsie, but for an unfortunate accident, which about two or three months since, destroyed him, when in fine condition, and in the very fullness of his health and strength. Thus, to my very great disappointment and mortification, ended the life of a most valuable and useful animal. He was indeed, a magnificent ram; but there is, of course, no use in indulging vain regrets on account of his loss."

Culture of the Olive in Mississippi.—Mr. De Buys of Biloxi, in a recent letter to the Editors of the Cultivator, says—"In regard to the cultivation of the Olive,—of course on the smallest scale,—I state that I planted for ten years, in the month of January, in our poor coast ground, Olive cuttings, from which, without farther trouble, after seven years, (the common fruit bringing time of this tree,) I gather in general from every tree, a bushel of, in no part of the earth, surpassable Olives."

Crops in Chester Co. Pa.—Extract of a letter from J. M. Harlan, Esq., to the Cultivator, dated July 25th: "The crops that have been harvested are nearly all good here—hay, wheat, oats, &c.; though wheat was attacked I believe pretty generally in some degree with the fly. Corn and flax have a good appearance, though we are at present suffering from drouth. Potatoes we hope, will be better than last year. Apples and fruit in general are plenty, though pears have failed. I think we have had less thunder and lightning than in any preceding year within my remembrance. We had two days ago a fine rain of three or four hours, without any of the usual symptoms of thunder and lightning, though the weather is sufficiently warm."

Wheat Crop of Vermont.—Mr. Jewett gave it as his opinion, in a communication in our last paper, that the wheat crop of the present year was equal to the supply of its people for the year. A correspondent at Castleton, "L. F. B.," says:—"I have not the least hesitation in saying there was not sufficient wheat grown the past season to supply one-fourth part of the people of Vermont. The large agricultural county of Rutland, from what I have seen and heard, will not raise enough wheat to supply two of its largest towns. The State is truly a wool, cattle, and horse growing State, and marble, iron and timber, also add much to its resources for exportation. I wish for the good of the State and for 'home protection,' your correspondent had *guessed* right."

Merino Sheep.—Mr. A. L. Bingham, of Cornwall, Vt., informs us that he purchased a flock of Merino sheep in 1838, which "sheared that year, 3 lbs. 3 oz. of well washed wool—the second year, 3 lbs. 10 oz.—the third year, 3 lbs. 14 oz.—the fourth year, 4 lbs. 2 oz.—the fifth year, 4 lbs. 4 oz.—the sixth, or last year, 4 lbs. 6 oz.—being an increase of one pound three ounces, and this, by no better keeping than they had before, for they were kept well on hay before, and no better since." He thinks "the weight has been put on entirely by the crosses" he has made. The crosses have been with bucks from the flock, (said to be "full blooded Paular,") of Merrill Bingham. The increase in the weight of fleece, is certainly a matter of no trifling consideration, though Mr. Bingham has not informed us whether its *fineness* has been preserved. Mr. Bingham also informs us that he has purchased twenty-eight ewes of a flock which he says is "full blooded Paular, if there is any in the country;" they were purchased of the importer by Messrs. Buffum & Smith, of Nantucket. "These ewes," says Mr. B. "averaged me of well washed wool, a mere trifle under five pounds per head." Mr. Bingham also informs us that he purchased a buck of this flock for which he "paid $80, which gave this year 10 lbs. 7 oz. of wool, well washed."

Grape Vines.—Mr. Harlan of Chester Co. Pa., in a late letter, says:—"The young and inexperienced vine dresser, might suppose from the voluminous directions to propagate the vine, that choice wine grape vines would not bear to any advantage without being cut and carved in a particular manner, and divested of their native shape. Now if this sentiment is imbibed, I believe it is an entire mistake. I maintain that they will bear at full natural length. I had last year, during the prevalence of the noted frost in June, a seedling vine which grew on an apple tree in the corner of a garden, where hung large bunches of grapes, protected from the frost by the foliage of the tree, thinned out in the heart of the head. This vine exceeded all others in bearing, which were pruned in the usual manner, there being none of consequence on those exposed to the frost. I may add there is a good crop on it the present year."

Experiment.—A gentleman cultivated two hills of cucumbers, each having the same number of plants, under precisely the same circumstances, excepting in the following particular, viz: the ground around one hill was hoed every day, (Sundays excepted,) as long as the state of the vines would admit—the other was hoed just often enough to keep down the weeds, but no more. The hill which was hoed every day, produced more than twice the quantity of cucumbers that the other did. Who can give the "why and because?"

Castration.—Mr. J. J. Reed, of Moravia, Cayuga Co. N. Y., says,—"The method of castration I approve of as being most humane, is called *turning*. The beast is cast, his legs made fast, the hind ones drawn as far forward as convenient. The operator then takes hold of the sack at the lower end with one hand, and with the other commences shoving the testicles into the belly. As soon as they are completely broken loose from the sack, he shoves one into the belly, leaving the other in the sack; then taking hold of the testicle, he turns the upper end down, and commences shoving the end which is then up, around the cord, until it feels as hard as a stick would in the same place. He then shoves it into the belly, (taking care that it does not turn back,) and takes the other down and serves it in the same manner, shoving them both as far up as they can be. He then holds fast the sack, while another ties a stout string around close to the belly. The string is left on about ten days; if it does not then drop off, cut it off, and all further trouble is over. The advantages of this mode of castration are, if bulls, and they are wanted for a team, it will not injure them in the least to commence working them the next day after the operation is done—they will grow as thrifty as steers, only showing by their horns that they are stags—it does not make them slow, and they are less inclined for cows than when altered by any other means."

A Hint.—Don't suffer your revolving hay-rake, and your wagon rack, and hand rakes, and whatever else you have used in the haying and harvesting just finished, to lie out in the fields exposed to the weather, but see them well housed for another season. The weather destroys more tools than hard work, with some farmers; and more valuable time is lost hunting up and repairing lost implements, than their original cost.

Frost.—On the morning of Sept. 5th, there was a slight frost on the plains near Schenectady. We also learn that there was frost in the eastern part of Mass., on the morning of the 5th, 6th and 7th of Sept., but no injury of consequence was done. At Chicago, Ill., we learn there was a slight frost about the 10th of August.

Cost of Fencing.—Mr. Biddle, in an address before the Philadelphia Ag. Society in 1842, makes some calculations as to the cost of fencing, which will surprise those who have paid little attention to the subject. He estimates the expense of farm fences in Pennsylvania, and gives the data upon which his calculations are based, at $105,600,000. He thinks that the interest on this outlay, and the annual wear and tear of fences, is equal to an annual tax of $10,000,000, upon the farmers of that State.

Mortality among Sycamores, or Button-wood.—The destruction of sycamores which has for several years been complained of in Massachusetts and some of the other eastern States, begins to be seen here. We have noticed several trees along the river, and some in other places, which will hardly survive the season. We are not aware that the cause of this destruction has been yet fully ascertained. Some suppose it to be an *epidemic*, which commencing (as did the cholera,) at the east, is sweeping over the country. Others alledge that the cause of death is a minute insect, which corrupts the sap. Mr. R. L. Pell, thinks (as we see by the Farmer & Mechanic,) that the severe frosts of the last three winters have occasioned the trouble.

White native Strawberry.—A. Goodwin, Ashfield Mass., describes in the Mass. Plowman, a kind of strawberry, which he thinks is a native of the Berkshire hills. He says, "It is larger than the common field strawberry, very hardy, and yields a great quantity of fruit, producing in succession three or four weeks. When ripe, it is of a yellowish white, contrasting beautifully with the red strawberry. It has a fine flavor, and when picked always cleaves from the hull. I have distributed them in Northampton and West Springfield, where they are much admired."

Flax Puller.—According to a correspondent of the New Genesee Farmer, they have in use in Seneca county in this State, a machine for pulling flax, which works well. It is manufactured by Wood & Hurd of Waterloo, who have had several machines in operation this season. They "charge one dollar an acre for pulling, they furnishing the machine and one hand. Two hands and a pair of horses will pull four to five acres a day. To use the machine effectually, it requires some practice; a green hand would probably make bad work, if he were not a mechanical genius. They charge for these machines, $90 each, with the right to use the same. It weighs about 700 pounds."

BANKS OF THE HUDSON.

About the beginning of last month, we made a hasty call at some of the fine places near the Hudson, in the counties of Orange and Dutchess. Our first stop was at Newburgh, where we visited the extensive nursery grounds of Messrs. A. J. and Charles Downing. These gentlemen have devoted much time and attention to the improvement and culture of fruits, and in return for their assiduous and long continued labors, have acquired a deserved and extensive reputation, which brings a ready demand for all articles in their line of business. Their principal object is rearing trees of the *choicest* kinds of apples, pears, peaches, cherries, plums, &c. Thirty acres are set to trees, and more healthy, thrifty, or handsome trees, we never saw. We noticed in some instances, the smaller trees were cultivated in alternate rows with sugar beets or potatoes—the latter increased the trouble of cultivation but little, though they afforded a crop which would probably more than defray the whole expense. The trees are cultivated chiefly by a cultivator, the construction of which we think, is in several respects superior to any other we have seen. The teeth are made of wrought iron, the *feet* being laid with steel, the shank shaped somewhat like a coulter to a plow. The feet nearly flat, and very sharp. It is on the *expanding* principle, and by means of a wheel, the depth is regulated, and the work is done in the best manner—even the hardest ground is well cut up and pulverized.

Messrs. Downing pay considerable attention to the rearing of *hedges*. The English thorns have not succeeded—they are not hardy enough—are subject to mildew, &c. Some of our native thorns do well—such as the *white*, and the *Buckthorn*.

One of the most ornamental and beautiful objects about the grounds, is a hedge or screen of the American *Arbor vitæ*, or white cedar. The trees were taken from a bluff near the river, only ten years ago, being then from a foot and a half to two feet high, set in the form desired, and have never been trained or touched at all, yet they are now from sixteen to eighteen feet high, forming a most magnificent screen, impenetrable to the sight, and as perfectly true and even as the sides of a wall.

Messrs. Downing practice a new mode of pruning peach trees; at least, it is new to us. It is cutting off half to two-thirds the new wood of the limbs, every autumn. The advantages are that the wood hardens better—the soft and tender twigs, not sufficiently matured to stand the winter, and which are besides most likely to be injured by the aphis or other insects, are taken away, by which the sap and wood of the remainder, are rendered more sound and healthy. The number of fruit buds for the succeeding year are increased, and there are plenty of leaves, by which the sap is more perfectly elaborated and the fruit made larger and higher flavored.

The soil of the nursery grounds, is mostly a gravelly or stony loam, rather moist. Neither the worm or curculio does much damage here. The solidity of the earth, makes it difficult for the insects to enter it for the purpose of undergoing transformation.

Every thing about the grounds of the Messrs. Downing, indicates the best taste and judgment, both as regards ornamental arrangement and profitable cultivation. There is an admirable neatness and order observable throughout, from the original design of the buildings and grounds, to the placing and training of every shrub and flower.

From the Messrs. Downing's, we called at Mr. Frederick J. Betts' place, situated about two miles from Newburgh. The farm is located on a very high swell of land, and commands a beautiful view of the river and surrounding country, embracing the Beacon mountains, on which were kept the beacon lights to direct the movements of the army and vessels on the river, during the revolutionary war.

Mr. Betts is engaged in improving his place by the building of new fences, planting trees, manuring the land, &c. He has made several trials with peat or swamp muck, and with a species of marl, which is found underlying the muck. The natural locality of the muck is some distance from the farm, but is to be had in any quantity, at thirty-seven and a half cents per cart load, *delivered*. Composts have been made by mixing two parts muck with one of stable manure, and on trial the compost has been found equal in all respects to the clear manure. The muck has also been used separately. Spread on grass-ground, it has had the effect of largely increasing the yield of hay. The marl has not yet been tried so thoroughly as to be able to state its value particularly. It is known, however, that its qualities as a fertilizer are very considerable. It is composed mostly of small shells, mixed with a friable clay or loam. It looks and feels between the fingers, much like leached ashes mixed with lime. When laid immediately on the land after it is taken from its bed, it seems rather to injure than benefit vegetation; but after lying exposed to the rains and air for some time, the deleterious qualities seem to be dissipated, and it promotes the growth of all crops. It is often so with muck—when first dug, it is *sour*, as farmers express it, and it is not till this sourness is extracted, that it becomes good manure. It always contains more or less vegetable matters, which need only to be placed in a proper situation to aid the growth of plants. We are glad to see that farmers are beginning to appreciate its value.

We also called on Capt. Robinson, near Newburgh. We found him just on the point of leaving home, and did not examine his farm as we should have done, could he have been with us. We were shown some very good hogs, which we understood were imported from Lancashire, (Eng.) They were white, very thin-haired, long-bodied, and small-boned. They resembled hogs we have seen brought from England, under the name of *Graziers*.

From Newburgh we crossed the river to Fishkill, where we procured a carriage to convey us to Poughkeepsie. Our route lay over a diversified and well cultivated country, and a more delightful ride of eighteen miles, we have seldom enjoyed. The road was excellent—as hard as a pavement, but smooth as a board—just sufficiently undulating, to make the travel easy for the horses, and the change of motion agreeable to the passengers.

The next day we went up by carriage to Hyde Park. Here, also, we found many beautiful places and highly cultivated farms. We called on Mr. Fuller, who has a beautiful place of two hundred acres. The scenery from some of the points overlooking the river, is most charming. The river, with its graceful windings, its banks, now bluff and abrupt, now gradually and beautifully sloping, the green wood and the cultivated field, with lofty mountains rising in the distance, all mingle in a delightful picture.

After enjoying the hospitality of Mr. Fuller, he, together with his neighbor, Mr. Allen, (a most interesting and amiable man, who has a fine place near Mr. F., which we regret having no opportunity of examining,) accompanied us on a visit to the farm of Mr. R. L. Pell, at Pelham, Ulster county.

When we reached Mr. Pell's farm, the day was so far advanced that we had not time enough to make scarcely a beginning in the examination of the many objects of interest to be seen there, and we must therefore defer attempting particulars till another visit, which we intend making. Mr. Pell has made very great improvements during the four years he has occupied the farm. In approaching the farm, the first object which meets the attention of the stranger, is the neat stone wall with which it is enclosed. The avenue leading to the mansion, winds through green fields and among plantations of trees, in a very interesting manner. There is also a delightful carriage-road, leading in a picturesque manner through the vales and among the hills and groves of the farm. There are also not less than *five miles* of walks, as Mr. Pell informs us, leading over the most interesting points. As we pursue these labyrinthian walks, we find ourselves sometimes in the depths of a dark ravine, where the primitive forest and the original wilderness of all objects around, give an air of solitude which would lead us to imagine we were at a great distance from the abodes of man. Several of the ravines are crossed by foot-bridges, one of which is eighty feet in length. They are supported by wires, and were made on Mr.

P.'s farm at a small expense. They are painted with *coal tar*, an article which Mr. Pell has used extensively on his out-buildings, fences, &c. It is a cheap article, but seems to answer well for this purpose. We have seen it highly recommended in the English papers. Its cost is only $2,50 per barrel.

Mr. Pell is making numerous *fish-ponds*, which not only add much to the beauty of the extensive grounds, but may become actually sources of convenience and even profit, for Mr. P. is of the opinion that fish may be reared as cheaply per pound as *flesh*. There are some half dozen of these ponds, and more are being constructed. In one of these ponds we noticed a variety of fish—the gold-fish, pearl-fish, carp, &c., and were surprised at the evidence they exhibited of domestication. On throwing into the water some bran, they came at once so near that they could be readily examined; and Mr. Pell informed us that the ringing of a bell would instantly call them to the edge of the water. Such an instance of the susceptibility of *education* in the finny tribe we never before heard of. In other ponds, there are shad, (put in by way of experiment, to ascertain whether they can be *naturalized* to fresh water all the year,) sturgeon, trout, pickerel, perch, carp, &c. We shall look with interest to the results of Mr. P.'s experiments in rearing fish.

FOREIGN INTELLIGENCE.

THE WEATHER, CROPS, &C., IN ENGLAND.—The weather up to the 20th August, was quite showery, but since that date, the atmosphere has been uniformly fine, and the corn has been got in admirable order. The Mark Lane Express says—

"As to wheat, no complaint whatever exists; everywhere it is admitted that the acreable supply will be very abundant, with quality seldom or never surpassed. The straw of all grain, on the other hand—owing to the dry weather in the early part of the season—is very short. Oats are not likely to prove more than an average produce; but that of beans and peas will be quite equal to that of last year."

The importations of foreign live stock during the month of August, were 1,277 head of oxen and cows, in addition to which there were imported 100 sheep and 200 pigs. Some anxiety continues to be felt among the British farmers in regard to this importation, and it is said that in France, Germany, Holland, &c., great efforts are being made, by importations of the best breeds of cattle and sheep from England, as well as by the adoption of an improved system of husbandry, to enter into competition with the English farmer in his own markets. No success had attended the attempt to fatten foreign stock in England. In every instance where it has been attempted, the stock has been immediately seized with the epidemic, and speedily wasted away. Immense quantities of American beef, pork, cheese, &c., have been entered for consumption in London, Liverpool, &c., in, generally speaking, capital condition.

The hay crop is light—and owing to the drouth of the season, the cattle are generally not in as good order as might be wished.

In Scotland and Ireland, the harvest was being secured in good order.

Great preparations are being made for an extensive seeding of wheat for the next year's crop.

SHOW OF THE HIGHLAND AGRICULTURAL SOCIETY.—The annual show of this celebrated society, took place at Glasgow on the 8th of August. The weather was unfavorable from rain, but the number of people in attendance was, notwithstanding, great. The receipts for the sale of tickets for admission to the show-yard, amounted to no less than $7,389. The total number of lots was 1,404, among which were 222 Ayrshire cattle, 55 West Highland cattle, 160 horses, 118 sheep, 187 lots of butter, 83 lots of cheese, and 176 implements. The largest number ever entered before, was 1014, at Edinburgh, in 1842.

In the Ayrshire breed, there were shown 61 bulls and 99 cows, said to be a very good and even lot. The West Highlanders produced some remarkable specimens of their excellent breed; the short legs of the animals seemed scarcely able to carry their thick, round and heavy bodies. Some oxen of this breed, belonging to the Duke of Sutherland, travelled 350 miles to the show. The first premium for the best two oxen of any breed or cross, was awarded to Archibald Sterling, for a pair of West Highlanders.

MR. COLMAN.—We have been furnished with the following extract of a private letter from a gentleman now in Europe, to a friend in this country:—"I saw Mr. Colman in Southampton—thence he goes to the Glasgow meeting, and afterwards to Dublin. He is really in his element; and the very man perhaps of all others to collect the information you want; though really to a less searching character like myself, the great differences existing between the two countries would create much embarrassment in selecting a great deal that was applicable to American husbandry, when the difference in labor, the value of land, the climate, the prices of produce, and the capital is considered. He has been very well received; and the attentions of the great have been showered upon him. The halls and mansions and banquetings of the lords of the land are every day affairs with him, and must be a source of great satisfaction and gratification, both to him and to those friends who gave him letters of introduction. If Mr. Colman cannot glean from this rich harvest field, who can?"

DEFECT IN POTATOES.—The subject of the defect in potatoes, was discussed at a late meeting of agriculturists in Scotland. There was a very great diversity of opinion in relation to the cause—scarcely any of the speakers agreeing. The age of varieties, the nature of the soil, the state of the weather, cutting and *not* cutting the seed, were all mentioned as tending to produce the defect. Professor Johnston summed up the testimony, and as to a remedy, remarked that all appeared agreed that sound healthy seed, and a well pulverized and well drained soil, were the best preventives of the disease, and best guaranty for a good crop.

DYNAMOMETERS.—At a late meeting of the Council of the Royal Agricultural Society, several improved dynamometers, calculated to obviate the defects of those heretofore used, were presented and referred to a select committee for trial. One of them sent by Mr. Clyburn, it is said, would record a strain of draught up to twelve hundred. Its principle of action being self-recording, was different from that of other dynamometers, the box containing the instrument being supported on wheels, which communicated by their axle, a progressive revolution to the recording cylinder within it as the draught proceeded, and its registration was made continuously by the pencil moving over its ruled surface; the average amount of draught being obtained by inspection of the indication thus obtained by the momentary variations during any given time and space. The committee will report on the results of the trial of these implements at a future day.

IMPROVEMENT OF THE LABORING CLASSES IN ENGLAND.—His Royal Highness Prince Albert, has accepted the office of President of the Society for the Improvement of the condition of the Laboring Classes, which has been liberally patronized by the Queen and several of the nobility.

TENNESSEE AND ALABAMA.

We make the following extracts from a letter from our friend Col. ALEX. MCDONALD, of Eufalla, Alabama, dated Bedford county, Tennessee, Aug. 25.

"I set out in company with my family, on the 24th of June, from the town of Eufalla, Barbour county, Alabama, in latitude 31½, being what may be termed the cotton growing region. I have traveled over ten counties and parts of counties in Alabama, and six counties and parts of counties in Tennessee. That portion of our route through Alabama, was mostly confined to the new section of the State; we however saw many fine crops of cotton and corn, which are the principal crops in southern Alabama. These crops are reported as good the present year. It was however, too early to determine as to the extent of the cotton crop. We were struck with the large body of land lying in a state of nature in Alabama, that could be taken up at the reduced price of $1,25 per acre. After traveling three hundred miles through Alabama, we crossed that bold and beautiful stream, the Tennessee. Here we found ourselves entering on the rich lands of the west, as well as the fine McAdam roads which are becoming universal in Tennessee, and are doing much for this interesting section. Of all the countries I have yet seen, middle Tennessee affords the finest home for the cultivator of the soil; although they cannot make money as fast as we of the south, still their soil is so rich, the climate so mild and pleasant, and the water so pure, that it appeared to me, that of all the happy men in this world, the Tennessee farmer could be the most happy, if he would only determine to own less land, study agriculture, improve his farm, have not only a snug and nice farm, but a snug and nice garden; and he would be encouraged to do this from the circumstance that he can better improve those valuable lands than in most sections of the south, for the reason that they will last for ages. The farmers of middle Tennessee are improving their lands with clover at this time. Provisions are so cheap here, that it costs almost nothing to live. I am at present paying $3 a week for myself, my wife, two servants, and two horses, and our fare is excellent. While in Nashville, I attended the markets to price the articles of provisions. The following are the prices: flour, 2 cts. per lb.—beef, 2 cts. per lb.—3 doz. eggs for 10 cts.—butter, 5 cts. per lb., and a great abundance of every thing at the most reduced prices."

HARVESTING CORN.

We find the following detail of an experiment in harvesting Indian corn, in the Massachusetts Spy, by a correspondent who dates at Bloomfield Farm, Harvard. It will be seen that its results agree with the practice of many of our best farmers.

"Last fall before the time for cutting stalks had arrived, I reserved twelve rows of nearly a square acre of corn to test the comparative utility of cutting the stalk (or topping) and stooking—or cutting up stalk and butt with the ear on. The rows were alternate, thus, No. 1, the easternmost row, was topped. No. 2, the second row, was stooked. No. 3, topped. No. 4, stooked. No. 5, topped. No. 6, stooked. Thus on to No. 12 inclusive. The stooked was bound with straw and carried out on the grass, when the rest of the field was topped. All was harvested at the same time.

The corn was husked into baskets, holding one and a half bushels of ears, 2d Nov., 1843.

Weight of stooked baskets of ears.	W'ht of unstooked baskets of ears,
No. 1 weighed 79 pounds,	No. 1 weighed 75 pounds.
No. 2 " 72 "	No. 2 " 73 "
No. 3 " 74 "	No. 3 " 74 "
No. 4 (not full) 67 "	No. 4 (not full) 19 13–16

Whole weight of stooked,............... 292
" " not stooked,............... 241 13–16

50 01–16

Balance in favor of stooked, 50 lbs. 3 oz. in ear, by weight.

Balance in favor of stooked, 3 pecks, in the measure.

On the 17th of Jan. last past, both parcels were shelled.

The six unstooked, yielded 2 bushels and 3 pecks of shelled corn.

Difference in favor of stooked, 3 pecks of shelled corn.

On weighing the shelled corn, the difference in favor of the stooked was 47 lbs. 7 ounces.

On weighing the ears in November last, Mr. Wood, one of my men, my brother and myself observed that the stooked was not so dry as the unstooked. Consequently, the stooked weighed more and lost more on the cob than the unstooked. But the shelled stooked more than held its own on the last weighing. On using the stalks and buts of the stooked, which were cut up in four inch pieces, by Hovey's Spiral Hay Cutter, both parts, or rather the whole was found equally sweet and green. If it is added, that the rows of corn were 3 feet 6 inches apart and that the labor of harvesting the stooked, was, in every stage, less than by the usual mode (except in husking) you and your readers in general—and our old Harvard farmers in particular—will have all the elements necessary to make their own calculations, and may draw such conclusions as are warranted by the premises."

ESCAPE OF MANURE FROM THE SOIL.

Mr. S. M. Brockway of Hamburgh, Conn., proposes the following query:—"Does manure pass off from a sandy soil by evaporation, or does it descend deep into the earth with the water?"

We have no doubt that manure may be carried off in both of the ways suggested by our correspondent. If a quantity is taken and exposed to the action of the air and rains, its value is after a while dissipated. A person in close proximity to this manure, may have noticed a disagreeable odor issuing from it. This was an indication that some of the most valuable portions of the manure, were escaping in the form of gas. At the same time that waste is thus going on, rains may be washing away the valuable particles that are not taken off in the atmosphere, till at length, by the combined process of washing and evaporation, nothing is left but a mass of inert matter. Now the wasting process here described, may go on in a greater or less degree when the manure is deposited in the soil—modified, of course, by the nature of the soil, and the depth to which the manure is buried. In a very light and porous soil, a deeper covering is required to prevent waste from evaporation, than would be necessary in one more compact; but the more loose the soil, the greater would be the liability of waste from the descent of the manure by water. That manure, in some cases does thus descend, is proved from the fact that earth has been taken three or four feet from the surface, where barns and stables have stood, which exhibited evident traces of the enriching deposit, and which on being applied to the soil, plainly showed its fertilizing properties in the increased luxuriance of vegetation. On moist and cold lands, manure should be kept near the surface—if it is deeply buried, it lies inactive. On *wet* soils, especially for grass lands, we should prefer applying manure entirely to the surface. No specific rule can be given in regard to the depth to which manure should be placed in the soil; it must always depend on the kind of manure, the nature of the soil, and the kind of crop to be cultivated. In general, we should prefer to cover it no deeper than should appear to be necessary to prevent the escape of the gases evolved by decomposition; and this depth will depend as before said, on the character of the soil; an inch in some cases would be equal to three inches in other cases.

NEW PUBLICATIONS.

New Ag. Journal.—Prof. **Emmons** of this city, and Dr. A. J. **Prime** of Newburgh, have issued proposals for "*The American Quarterly Journal of Agriculture and Science;*" to be published in this city, in numbers of at least 150 pages, forming two volumes of 300 pages each per year, at $3 per annum. The first number to be issued early in January next. Prof. Emmons is well known as a member of our State Geological corps, from its first organization, and is now engaged on the part of the State, in the preparation of a work on the character of the soils of New-York, as ascertained from analysis; and Dr. Prime, though less known, has given evidence in his contributions to this and other journals, of his acquirements in agricultural science. We believe the time has arrived for the establishment of a work of this character, and if properly conducted, as we doubt not it will be, we believe it will be sustained.

Townley on Bees.—"A practical treatise on Humanity to Bees, or practical Directions for the management of Honey Bees, upon an improved and Humane Plan, by which the lives of Bees may be preserved, and abundance of Honey of a superior quality obtained." The above is the title of a manual of 162 pages, duodecimo, published by Edward Townley, New-York. It contains valuable information on the subject of management of bees, and is recommended to all who feel an interest in these useful insects.

MANUFACTURE OF CIDER.

If any cider is wholesome, that which is made right, is most so; and both as a matter of health and pecuniary profit, that which is of good quality, is most to be desired. There is no difficulty in making cider of such a quality that it will command from three to four dollars per barrel, by the quantity. The expense is but little more than is incurred in the dirty and slovenly mode of making the miserable stuff which generally passes by the name of cider.

Cool weather is necessary for making good cider, and the quality of the liquor is improved by letting the pomace lie as long before it is pressed, as can be done without fermentation.

There is a great difference in the quality of apples. Those should be chosen for cider, which yield the richest juice, though the quantity is usually less in those of this character, than in others. The apples should be *ripe* when ground, but not *rotten*, and care should be taken to put those which ripen about the same time, into the same pressing.

In the management of the liquor, the first and grand object should be to free it from all sediment. When this is properly done in the beginning, it will be easy to regulate the fermentation afterwards. The best mode which we have ever known practiced, is to pass the cider, as soon as it comes from the press, through sand and charcoal. Clean river sand, rather coarse, is best. For only a moderate quantity, a large tub or vat, may be used. Put in the sand and coal in alternate layers—having the coal in pieces of half an inch to an inch square. Lay a piece of flannel over the top, and turn on the cider as it comes from the press, as fast as it will run through. The flannel will catch much of the pomace, &c., which will after a while so fill the pores as to render it necessary to remove the cloth, and wash it, or substitute another in its place.

If the filtration is well done, the cider will appear perfectly pure as it runs from the sand, and should be at once put into casks and deposited in the cellar. After the casks are placed, the bungs should be taken out, till the fermentation has subsided. The fermentation will be somewhat retarded, and its activity much lessened, in consequence of the filtration. The casks should be kept entirely filled during fermentation, that the froth or scum may work out. As the fermentation abates, the bungs may be put lightly into the casks, and when no foam continues to rise to the top, the bungs may be driven tightly. The cider will sometimes keep well without further attention, for years; but in general, it is better to rack it off into other casks in the latter part of the winter. There will be found only a small portion of dregs in each cask, but in racking, care should be taken that none of the sediment runs off with the pure cider. If the casks are sound and good, and are kept in a good cellar, the cider will keep a long time without changing. If it is wanted for bottling, it will answer well for this purpose, when managed in the way described, the following May or June from the time it is made.

The casks for keeping cider should be made of the best of oak, well bound, and must be perfectly sweet. The cellar for storing, should be cool and dark. The temperature should be at all times as nearly as possible the same, in order that the cider may remain in the same state. The exclusion of light is necessary for the same reason, as the tendency of light is to produce decomposition.

Different substances have been recommended to be put into casks with cider. Salt, clay, alum, mustard-seed, fresh meat, eggs, and a hundred other things, have been tried. We have at different times seen cider in which many of these things were used, but never yet saw that which was as good as that made in a proper manner without any thing being added. Most of the articles tend to deaden the cider, and lessen its most essential qualities. Made as we have recommended, it is free from the *syrupy* taste of new or sweet cider, is spirited and lively, with a fine, rich vinous flavor.

To cleanse musty or foul casks.—If due care was always taken, casks would never get musty. As soon as the cider is out of a cask, it should be rinsed out thoroughly, dried, and then bunged tightly. But if from negligence, a cask becomes musty, the best way, as far as we know, to cleanse it, is to put in a quantity of unslaked lime, and pour boiling water on it till it is thoroughly slaked. Put in the bung, and shake the cask about so that the water and lime may come in contact with every part. Let it stand six or eight hours—empty it out—smell of the cask—if it is still musty, repeat the process, and after having again emptied out the lime, burn a strip of cloth dipped in melted brimstone, in the cask, fastening it by the bung. It must be a very bad smelling cask, that will not be rendered sweet by this mode.

DEFECT IN POTATOES.

For several years past, complaints have been made, in different parts of Europe, of a defect in potatoes. The injury to this important crop in some sections of Great Britain, has been very serious.

A similar defect, so far as we can judge from descriptions, has been more or less prevalent in this country the last and present season. The disease (if so it may be called,) has been before so well described in our columns, that we deem it unnecessary to say any thing particularly on this point. We hear considerable complaint of the present crop being affected in this State—especially, to the south and west. In a late trip to Orange and Dutchess counties, &c., we saw scarcely a field of potatoes, that did not exhibit signs of a premature ripeness, or blast, which is, we think, the first indication of the defect and tendency to rot. In a trip of some forty miles to the north, made since returning from the southern counties, we did not find the indications of this defect so prevalent, and heard little or no complaint in regard to it.

The *cause* of the defect, seems to be involved in as much obscurity as ever. We have heard many conjectures, all more or less differing from each other. Some have supposed the trouble was produced by an insect. We have made some examinations, but found no evidence of any. So far as we are at present enabled to form an opinion, we are inclined to believe that the occurrence of unfavorable weather for the potatoe, at a particular stage of its growth, has been the exciting cause of the defect—that the least hardy varieties, and those planted in ungenial soils, or too late in the season, have been most predisposed to suffer. We saw the other day some striking contrasts of the condition, product and quality of different kinds, at Professor Hall's place, near this city. Among several kinds, planted on the same description of soil, we found a variety called *Mercers*, (called in Pennsylvania, Ohio, &c. *Meshanicks*, *Neshannocks*, or *Chenangoes*,) had suffered most. Some other kinds, planted in adjoining rows, and at the same time, were but little affected. Of the latter, we were much pleased with a kind called *Early June*, a good sized, round, white potatoe, of a quality (as we have proved) unsurpassed for the table, and giving a good yield. They were ripe sufficiently early to sow the ground with turneps for a fall crop. So far as we have seen or heard, the kinds called *Flesh colors*, the round blue sorts, and the *Merinos* or *Long reds*, have not been much affected, unless on wet, heavy soil.

Mr. M. Y. Tilden, of New Lebanon, writes us under date of Sept. 6, as follows:—"I have this day been through a field of three acres of potatoes that would have given us at least 1,000 bushels, and find it badly affected with the new potatoe disease. What portion of them will be left, is beyond conjecture. We opened many hills, and the result of our examination satisfied us that the early planted, or those which were nearest ripe, were the least affected. Where the tops were green, we found scarcely a sound one. We also found that the flesh colored were less affected than the Mercers, Carters, or Pink eyes. In another field, I examined some of the old fashioned Merinos, and did not find any injured; the tops of these were quite green. I will examine them again by and by, and give you the result."

☞ The Camellia, or rose of Japan, in its native clime, attains the height of 12 to 15 feet

SALT MARSHES.

The expediency of reclaiming salt marshes, seems to have been heretofore looked on by some as questionable, from the fact that many marshes which have formerly been diked, have proved unproductive after the lapse of a longer or shorter time, and have consequently been suffered to relapse into their former condition, or be flooded again by the tides of the ocean. This, we are informed, has been the case in several instances in Mass. But the results do not seem to have been uniform, for though in some cases the anticipated profits have not been realized, yet in others, success has been quite satisfactory. The productiveness of these reclaimed marshes seems to be regulated in a great degree by local circumstances—as the nature of the soil, the perfection of the work of reclamation, &c. The expediency of diking, was considerably discussed in the New-England Farmer some twenty years since. Hon. John Welles wrote several articles to show that the advantages to be derived from diking, were so uncertain, that the operation was in general inexpedient. Among other reasons for his views, Mr. Welles held that "an acre of salt marsh is worth as much as an acre of any grass land whatever." Mr. W. says further in regard to this land, "that it requires little or no fencing—it takes no manure from the farmer's yard, but is recruited for the product it yields, wholly from the sea; and it requires few or none of those natural or incidental labors which are common to all upland. The product of the marsh is of great advantage to cattle, especially in the interior, as a change of food, and as a gradual and natural supply, in the best state, of saline matter. This is apparent in their thrift, and it has long been known to our farmers, that the value of the manure has been much increased where this fodder has been used."

In opposition to the views of Mr. Welles, that the diking of marshes is injudicious, a correspondent of the New-England Farmer (for March 2, 1827,) cites an example of reclaimed marshes in the Little Harbor of Cohasset. As early as 1789, the marshes of this place were diked by a company incorporated for the purpose. From some accident, the dike fell into decay. "In 1792," (says the account,) "the proprietors rebuilt the dam, and succeeded in converting the meadows into English grass, which from that time to the present, has yielded a more certain crop than almost any other land. None of the meadows extend further than thirty rods from the upland, and abound with fresh water springs."

In the American Farmer's Encyclypedia we find the following directions for reclaiming marshes, said to have been derived from Mr. T. F. Lambson, of Salem, New Jersey:

1st. The marsh should be secured from the tide by a permanent bank. 2d. A sluice or sluices of sufficient capacity must be laid to discharge the rain water and back water which proceed from adjacent uplands, so that at no time the water-courses and ditches will be filled to overflowing. The sluices should be laid deep enough to draw the water through them from the lowest part of the marsh; great care should be taken to have the doors made tight, so as to exclude all the tide water possible. The water-courses and drains should intersect each other at right angles, and no lot of marsh should contain more than ten acres. If any rain water should remain upon the middle of these lots, it will be necessary to cut small drains to let it pass off freely; these might be covered, where the materials are at hand. The mud and earth which come out of the water-courses and ditches, should be removed into the lowest part of the marsh; by a neglect of this, the rain water will be confined too long upon the surface, and the most luxuriant growth of timothy or clover may in a short time be converted into a nursery of rushes.

The best time to sow down with grass, is when the tide is first shut off, and when the mud is soft; a growth of coarse grass will spring up sufficient to protect the young grass in its tender state; this crop should be mown off, and not suffered to lodge upon the marsh. Timothy and herds grass require about one bushel to sow four acres. The former will flourish where the water can be kept $2\frac{1}{2}$ or 3 feet below the surface; where it approaches nearer than this in the ditches, the latter will succeed best. In order to avoid having it sown in rows, it should be sown a second time across the first sowing. It is not advisable to mow longer than three years in succession; to mow and pasture alternately is the better plan. If the high marsh becomes bound and unproductive, plowing will be necessary; and after raising two or three crops of rye, Indian corn or broom corn, without the application of any manure, the soil will be quite renovated, and when sown down in grass will be much more productive. When the earthy deposit is several feet in depth, it will not soon be exhausted; when it is not desirable to plow, lime may be used with success. Low marsh or turf, or as we term it here, "*horse-dung*" mud, should not be plowed; when it becomes unproductive, a covering of clay or loam to the depth of two or three inches, will be found the cheapest application.

ROT IN FRUIT.

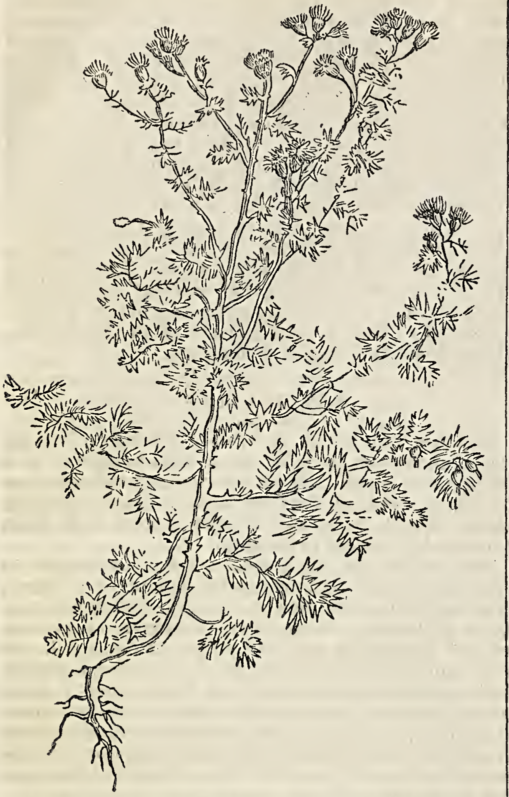
All those who are in the habit of putting up fruit for use or for sale, are sensible that a large portion of it is lost by rot or decay. There are two causes of this; one the natural decay of the fruit, and the other a fungi or parasite, which, when once it fixes its roots in the fruit, spreads with destructive rapidity.

The result of the first is seen, when it is attempted to keep fruit beyond the time fixed by nature for its decay. Thus apples that are ripe in August, will rarely keep sound till January; decay usually beginning at the center, and progressing until the whole is destroyed. So with plums, peaches, grapes, &c. The second kind of decay, or that which arises from fungus, usually commences at some point on the exterior part, and penetrates into the inside, as well as spreads over the surface. The *bitter rot*, so destructive in some cellars, and to some particular kinds of the apple, is an example of this parasitic destroyer.

Mr. Hassall of London has lately been engaged in a series of microscopical experiments on these fungi, determining their characters, and the manner in which they are propagated. He produced apples inoculated with the sporules of the fungi only three days previous, in which the rot had already extended to the size of half a crown; and the fruit was unfit for the table. It appears from the experiments of Mr. H. that the seed-like bodies of these fungi are too minute for the eye to detect, even in masses of considerable size, and they are always floating in the air around the place where such plants are able to fructify; wherever they meet with a portion of the skin of a fruit, a little torn or abraded, there they can establish themselves; and when the surface of a fruit is in no way injured, they are able, but with less rapidity, to introduce their microscopical spawn through the pores of the skin.

It is not improbable that the disagreeable odors so common in fruit cellars where decaying fruit is present, is in a great degree owing to these microscopic sporules that fill the air of such places; and the propriety of thorough ventilation would suggest itself as the means of checking the progress or spread of the fungi. It may seem incredible at first, that such minute substances should operate so quickly on living vegetable matter; but the instances mentioned by Liebig of the action of putrid animal matter applied to the living tissue, would seem to place this rapid action of vegetable poison on fruit in a clear light. We observed not long since an account of a fruit grower in Herefordshire in England, who preserved his fruit in a perfect condition, even when piled in large masses, by dashing over them once a week a sufficient quantity of pure water to wet the whole thoroughly, the apples being so placed on hurdles in the cellar, that the water could drain off readily. It is evident such an application of water would displace any sporules or fungi, unless they had taken very firm root, and it is probable the water would have the effect of imparting a vigor to the fruit, that would enable it to resist for a longer time the attacks of this insidious and destructive enemy.

Save all your straw for winter feed and litter.

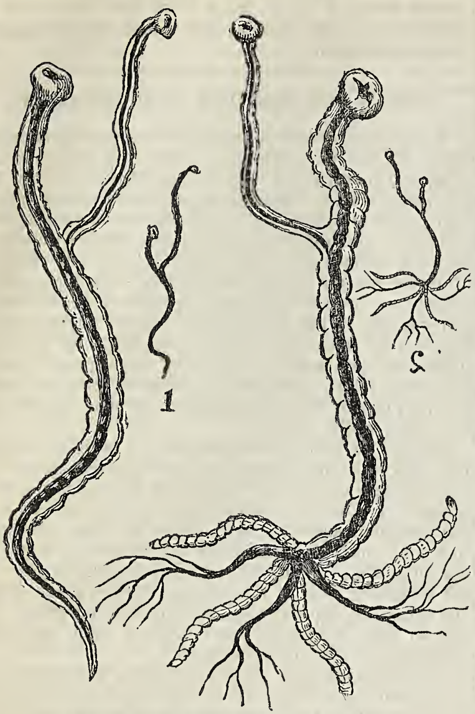


CANADA THISTLES IN MARYLAND, &c.

In compliance with the suggestion of Dr. Smith, we here give a cut of a Canada thistle. It was taken from a plant growing somewhat by itself, and has many more branches than are found on those which stand near together. When this plant has obtained full possession of a piece of ground, it grows very thickly, running up in a slender stalk, with only a few lateral branches, and a few blossoms at the top. Unlike every other description of thistle, the root of this variety is perennial. Almost the smallest quantity of the root possesses the power of reproduction—the roots run a great distance, both downwardly and horizontally, which makes its eradication very difficult. A few days ago we saw some growing finely which had sprung from roots that were cut off at least two feet from the surface of the ground, where some workmen were grading a street. The best way to kill them is by mowing when they are in bloom. This is often quite effectual, but if they start afterwards, they should be cut again the same season. In the specimen from which our cut was taken, not much of the root was obtained, in consequence of the hardness of the ground. Its lateral roots are very numerous, and of the size of a goose-quill. Mr. Smith, says:

I hope the farmers of Maryland, and of the middle and southern States generally, will keep a good lookout for this terrible pest. They may be assured that they never have had an evil of one-tenth part the magnitude of this when it once becomes located upon their land. Loudon in the Encyclopedia of Agriculture, thus speaks of it: "*Cnicus arvensis*, (the Canada thistle,) is well known as one of the most troublesome weeds in arable land. It is never found, however, in very sandy, gravely or peaty soils, (in England,) but generally in such as are loamy and dry. An instance is given in the Farmer's Magazine, of the descending roots of this plant having been dug out of a quarry *nineteen feet long*; nor is it less remarkable for its horizontal roots. Mr. Curtis planted about two inches of a root in his garden in April, and by November following, it had thrown out under ground stolones (creeping shoots from roots,) on every side, some of these eight feet long; some of which had thrown up leaves five feet from the original root. The whole together when dug up and washed, weighed four pounds. In the spring following, it again made its appearance, on or about where the small piece was originally planted. There were between fifty and sixty young plants, which must have sprung from fragments of the roots that had eluded the gardener's search, though he was particularly careful in extracting them. From these facts it may readily be conceived how difficult it is to eradicate this weed from arable land. A naked fallow, with frequent and deep plowing, will not accomplish it, unless the season is more than usually dry. Laying land down to grass, keeping it in that state seven or eight years, and during the whole time pulling up every shoot as soon as it appears, is found fully more effectual than a naked fallow. But the plant is so common by road sides, and seeds so abundantly that it is hardly possible to effect its extermination. In common field lands and others indifferently cultivated, it often forms the larger half of the produce, and formerly used to be pulled up when beginning to come into flower, and given as food to horses and cows. Those who pull this weed require to be furnished with strong gloves or thistle pincers." I have made this extract not for the information of the northern readers of the Cultivator, nor any others who have the misfortune of being acquainted with the pest from their own experience; nor is this article written for those; unfortunately *they* know enough about it already; but my object is to put such information in the possession of the farmers of those sections of our country not yet cursed with this thistle, as will enable them to know the extent of the evil if it should ever come upon them, and that they may be prepared to prevent it. Let them be forewarned, and consequently forearmed. The Canada thistle will undoubtedly be among us (in the middle and southern States,) before long. It is indeed, even now in Delaware, and very likely indeed in Maryland, and possibly even further south and further west, in single plants here and there. If so, the work of extermination should be at once commenced. Every plant and vestige of root should be taken up and *burnt*. It will not do to throw them over the fence into the road or into the cow-yard, or any where else; fire alone will destroy the roots and seeds. A gentleman, just returned from the northern part of New-York, has kindly presented me with a specimen of the thistle, and he has left another at the office of the American Farmer. The object is to keep these specimens for exhibition to all farmers, that they may be enabled to know it when they see it on their land. It is sincerely hoped that we may be able to arrest the progress of the pest before it shall have taken possession of our fields in this region; but it will require the united and hearty co-operation of all farmers. Each farmer must watch his own land and look for it carefully; he must keep a good look out for it on his neighbor's lands, and on the road side. Let him never pass by a plant of it *any* where, but secure its destruction. The destruction of a single plant this season, will prevent the growth of some thousands next year. Its seeds are so numerous, so light and so provided with a feathery pappus, that a single plant would seed the grounds for miles around, the wind blowing them in every direction. I hope I shall not be considered as an alarmist without cause. I assure all that may question the propriety of this warning notice, that the evil is not exaggerated; my fingers even now *seem* to smart with the stings received when a boy in the north, from pulling Canada thistles; nor is the evil as far off, nor the time of its coming, as distant as may be supposed. It is in Delaware now, to a small extent, it is true, and it will be among us, further south, speedily. And as to the earnestness with which I recommend its being watched and taken hold of in time. let us consider, that if our predecessors had adopted the measures now recommended towards this thistle, we should not now have had our fields overrun with Richardson's pink, (the ox-eye daisy,) wild carrot, cheat, garlic, ripple, and many other pests; none of which, however, in exten and inveteracy, compare with the evils inflicted by the Canada Thistle. Gideon B. Smith.

The rot in the potatoe is extending over all this region.



GAPES IN CHICKENS—(Fig. 91.)

Messrs. Editors—From all I have seen and heard on the subject of what is called the gapes in chickens, it is a disease which is not generally understood. I shall therefore give you my opinion on its nature and cure. This spring, having my chickens attacked as usual with the gapes, I dissected one that died and found its *Bronchus or wind-pipe*, (not the throat,) filled with small red worms from half to three-quarters of an inch long. This satisfied me that any particular course of feeding or medicine given would not reach the disease. I therefore took a quill from a hen's wing, stripped off the feathers within an inch and a half of the end, trimmed it off with a scissors to about half an inch wide, pointing it at the lower end. I then tied the ends of the wings to the legs of the chicken affected, to prevent its struggling; placed its legs between my knees, held its tongue between the thumb and fore finger of the left hand, and with the right, inserted the trimmed feather in the windpipe (the opening of which lies at the root of the tongue,) when the chicken opened it to breathe, pushed it down gently as far as it would go (which is where the windpipe branches off to the lobes of the lungs, below which I have never detected the insect,) and twisted it round as I pulled it out, which would generally bring up or loosen all the worms, so that the chicken would cough them out, if not, I would repeat the operation till all were ejected, amounting generally to a dozen; then release the chicken, and in the course of ten minutes it would eat heartily, although previous to the operation it was unable to swallow, and its crop would be empty unless filled with some indigestible food. In this manner I lost but two out of forty chickens operated on; one by its coughing up a bunch of the worms which stuck in the orifice of the windpipe and strangled it—the other apparently recovered, but died several days after in the morning; in the afternoon upon examining its windpipe, I found a female worm in it, differing from the others by branching off at the tail in a number of roots or branches between each of which were tubes filled with hundreds of eggs like the spawn of a fish; and although the chicken died in the morning, the worm was perfectly alive in the afternoon, and continued so for half an hour in warm water. While I was examining it in a concave glass under a microscope, it ejected one of its eggs, in the centre of which was an insect in embryo.

From this fact, I have come to the conclusion that when the female worm breeds in the chicken and kills it, these hundreds of eggs hatch out in its putrid body in some very minute worm which probably after remaining in that state during the winter, change in the spring to a fly which deposits its eggs on the nostril of the chicken from whence they are inhaled and hatched out in the windpipe and become the worms I have described.

There is one fact connected with this disease—that it is only old hen-roosts that are subject to it; and I am of opinion that where it prevails, if the chicken houses and coops were kept clean and frequently whitewashed with thin whitewash, with plenty of salt or brine mixed with it, and those chickens that take the disease, operated on and cured, or if they should die, have them burned up or so destroyed that the eggs of the worms would not hatch out, that the disease would be eradicated.

I am also satisfied that the chicken has not the disease when first hatched; several broods that I carried and kept at a distance from the chicken-house where the disease prevailed, were entirely exempt. And chickens hatched from my eggs where they had never been troubled with this disease, were perfectly free from it; and a neighbor of mine who built in the woods half a mile from any dwelling, and has raised fowls for six or seven years past, and has frequently set my eggs, has never had the gapes among his chickens.

With my first broods of chickens, there was not one escaped the gapes. But all that have been hatched since I had the chicken-house and coops well whitewashed inside and out, with thin whitewash, with plenty of brine in it, and kept clean, have been exempt from the disease, with occasionally an exception of one or two chickens out of a brood.

In operating on the chickens, although one person can effect it, it is much easier done to have one to hold the tongue of the chicken while the other passes the feather down its windpipe, and by having a small piece of muslin between the fingers, it will prevent the tongue from slipping, which it is apt to do upon repeating the operation.

Accompanying this, I send you drawings of the gape worms in their natural sizes, and as they appear when magnified. Nos. 1 are the male worms, and Nos. 2 the female; you will observe that the heads of both male and female branch off in two trunks with suckers like leeches at the extremities of the trunks, one trunk longer and thinner than the other. The intestines extend from the branching of the trunks downwards towards the tail, and are perfectly apparent when magnified. This female branches off like the roots of a tree at the tail with intermediate tubes filled with small oval eggs.

Yours, &c. C. F. Morton.

Mill Farm, New Windsor, Orange co., N. Y. Aug., 1844.

ON THE BLIGHT OF PEAR TREES.

It appears that they are subject to blight from two causes—like other trees, if placed in land which at times is very wet—in a dry time such trees will suffer from want of moisture at the roots, and like forest trees in similar cases, will die off—they should be placed on rolling land where the water can run off freely. But the most common cause of blight in pear trees is a worm, the egg of which is deposited in the branches by a small insect. If iron ore or cinders of iron, or any other articles of iron be placed around the roots of the tree, the insect will bid adieu to the tree. Having tried this remedy in a sandy soil, and also on a stiff soil, and in places far distant from each other, and having driven off the insect when the trees of others were very much injured or destroyed in my neighborhood, I feel as if all who are troubled by these insects should carefully try the use of iron articles rather than to be under the necessity of continually topping off the limbs which contain the worm or young insect. It is probable that the iron is unfavorable to the worm which drops from the branches and makes its wintering place at the root of the tree, and then the insect avoids an unfavorable location for its young. But whatever may be the theory, it is sufficient that iron has the desired effect. C. D.

PLUMS.

One of the most successful cultivators of plums, is Mr. Isaac Denniston, of this city. For more than fifty years, the production of choice fruits of various kinds, has been with him an object of attention, and he has the gratification of having on many occasions borne off the palm as the exhibitor of the finest specimens of plums at the New-York Horticultural Shows. He has upwards of *forty* valuable kinds, ripening from July to November. Perhaps the richest of all these varieties, is the *Schuyler Gage*. The history of the introduction of this fine kind, Mr. Denniston informs us, is as follows. The original tree was brought from France by Aaron Burr, and given to Col. Schuyler, formerly of this city. For some reason or other, Col. Schuyler did not feel disposed to disseminate the variety, but after his death, Mr. Denniston bought the identical tree which had been brought from France, and transplanted it to his garden. The fruit, which ripens in August and September, resembles in appearance, the Green Gage, but is higher flavored, and more spicy. The tree is much more hardy and thrifty than the Green Gage.

Among other very rare and superior kinds, is a seedling called *Mrs. Bleeker's Large Red*. This originated from stones sent Mrs. B. from Germany. The fruit is large, of a bluish red—very melting and rich. Ripens in August and first September.

Murray's Queen Claude.—Green, good size—very rich and sweet. Ripens in August.

Lawrence's Favorite.—This is one of the richest of all plums. It is said to have been produced from the seed of the Green Gage, by Mr. Lawrence of Hudson, N. Y. The fruit is of large size, nearly round—the skin a dull green, covered with blue bloom. A clingstone, ripens in August and first September.

Mr. Denniston has several very choice seedlings originated by himself. He has no less than *seven* kinds which came from a tree obtained several years ago from Mr. Banker of Esopus. All these are good—some of them superior—but all quite distinct in their characters. To one of these seven seedlings, the name of *Denniston's Imperial Seedling*, has been given. This, besides being of very superior quality, is one of the most beautiful of fruits. It is large, round, of a golden yellow color, with a beautiful damask blush on one side. Ripens in September. Very productive.

Another of these seedlings, which was a great favorite with the late Judge Buel, is yellow, with a slight pink tinge. Ripens in August. Very productive.

Mr. Denniston kindly offers to give buds of any of his fruits to those who may wish them.

Mr. D.'s garden consists of four acres, and a greater product of four acres than he obtains, is rarely seen. Of these, the greater number are plums, but there are many apple and pear trees. All are managed in the best manner, and produce abundantly. Notwithstanding the large number of fruit trees, which seem to stand as closely as trees ought to stand, Mr. D. manages to raise a large quantity of vegetables of all kinds, and considerable Indian corn, besides an abundant crop of the finest red and white Antwerp raspberries. The latter are equal to any we have ever seen. Mr. D.'s mode of managing them, is to train them to stakes placed in rows four feet apart, and about three feet apart in the rows. In August, all the stalks or canes that have borne fruit, are cut down, reserving from four to six stalks of the new growth, for bearing fruit the next season. The tops of these are cut off to about four-fifths of the growth, and the stalks are then, by a piece of matting, bound round near the top, fastened to the stake. In this way they are kept up so that they may be conveniently hoed—they bear abundantly, and require no protection in winter. The raspberries are generally grown under the plum trees—indeed, nearly all the ground in the garden is made to yield, annually, a double crop.

The soil of Mr. Denniston's garden is a loam, lying on a pretty compact clay, which is not generally more than a foot or two from the surface. He thinks this kind of soil, made rich by street manure, is the best for plums. A thousand dollars worth of plums, and several hundred dollars worth of other fruits have been sold from this garden in a year, besides much that was eaten, given away, or wasted.

TREES FOR SHELTER AND ORNAMENT.

It is a great defect in our American management, that there is a too indiscriminate destruction of forest trees. It is the general practice to sweep off every thing, leaving the ground as bare and desolate as the deserts of Arabia. This is bad policy in more than one respect. First, it destroys the *beauty* of the grounds, which should never be done unnecessarily; for there is as much reason in allowing the *eye* the gratification of viewing agreeable objects, as there is in permitting the gratification of any other sense. This is a matter too much overlooked. A taste for the beautiful, properly regulated, should be indulged and cultivated. Too many of our people seem to be almost totally ignorant of this principle, and consequently, one of the chief sources of human happiness, is to them a sealed book.

Second, in this climate, subject as it is to extreme heat and cold, the preservation and growth of trees, either as shade or shelter, becomes an important pecuniary object. Pastures and fields should be as much as possible protected against bleak winds, by dense plantations of trees. Suitable trees should also be left in proper places for shade. An animal exposed in an open pasture to the scorching heat of midsummer, suffers great misery, and cannot be made to yield milk or take on flesh. Horses, in such situations, soon become poor, and sheep sometimes die from such exposure.

All steep side hills should be left in trees—they need not be left very thick—the best way is to leave them just thick enough to make what are called in the west, wood or grove pastures. Then, if the ground is smoothed a little, grass seed may be sown, and a fine sward will be soon formed. If the ground is natural to grass, it will soon become swarded without sowing any seed. These places will thus produce a good deal of feed—the grass will keep the land from washing—the trees serve for shade, and ultimately for fuel. All gorges, gulleys, &c. should be left in trees, or planted with them; they will frequently produce a good growth of wood, but will bear nothing else, and if the trees are destroyed, the land is soon cut up and washed away by rains. Managed in the right way, these steep side hills and gulleys serve to give interest and even beauty to a place, instead of wounding the senses, as they frequently do, by their unseemly nakedness.

The maple, oak, elm, hickory, ash, &c. among the hard wood trees, are suitable for preservation or planting, and among the soft wood kinds, the various sorts of pine, fir and larch. The pine and fir, being evergreens, should be allowed their due representation in all groves, both as a matter of ornament, and for protection against the cold winds of winter. In Scotland, great attention is paid to the protection of mountain and hill land pastures, by plantations of trees. The *larch* is there recommended as one of the most profitable kinds that can be used—particularly on account of its rapid growth, and its value as timber. How would the American larch do in this respect? It may be well to say that the American larch is what in some neighborhoods is called juniper, though the real juniper is altogether a different tree. It is an evergreen of the cedar family, whereas the larch is deciduous. We have only noticed this tree growing naturally in wet and boggy ground. Will it flourish well in other locations? Would the Scotch larch do well on common uplands? and would it be an object to plant it in such situations? What is the distinguishing difference in the Scotch and American larch, as regards their natural habits of growth, quality of wood, &c.? We shall feel obliged if some one will answer these queries.

Cattle Shows.—Niagara, at Lockport, Oct. 9, 10—Wayne, at Lyons, Oct. 8, 9, instead of 28th, as stated in our last—Herkimer, at Herkimer, Oct. 3, 4—American Institute, New-York, Oct. 16, 17.

House all tools—plow for spring crops.

VEGETABLE NUTRITION.

The writer scarcely expects to be able to offer any new views to those who have studied the subject thoroughly. His object is to endeavor to explain the subject to the understanding of practical men,—the farmers and gardeners, those who work the soil and derive their sustenance from it. Generally speaking, *all tillers* of the soil know that if they apply a load of horse stable manure to a certain quantity of land, the product will be increased by it to a certain extent; but they do not know the minute principles on which it acts. We all know that when we eat our dinners, our hunger is satisfied, but how many of us know the true cause of that hunger and the mode or true cause of its satisfaction? It is precisely the same with plants as with animals, including men. If we do not get enough to eat, we languish, and ultimately perish; if plants do not get enough to *eat*, they also languish and perish, or yield a stinted product. Plants and animals are enabled to grow by what they eat, and although their mode of eating, is different they both act upon the same principle, and both grow by what they feed on, and in no other way. This is vegetable and animal nutrition. The increase of a plant in size, is supplied by its nutrition, so is that of an animal—if neither have any thing to eat—if a plant have no manure, an animal no food, neither can grow, both must perish. These are plain matter ef fact principles that all understand. Now a new soil—that is, a soil just cleared of the timber, possesses a quantity of nutrition, from leaves and other substances that have decayed on its surface in the course of time, and hence new land is proverbial for good crops; but it is soon exhausted, and then a supply becomes necessary from some other source—just as your corn crib or meat house requires replenishing when exhausted of its contents, that your table may be supplied. This is the plain common sense reason why manure is necessary to a soil—if your meat house and corn crib require a new supply of meat and corn when their old supply is nearly or quite exhausted, so does your soil require manure when that approaches exhaustion.

But how does manure act in a soil, is a question most frequently asked, and the answer is, it acts precisely as does the meat in the meat house, and corn in the crib. Plants eat as well as men. If you have no provender for your cattle, you do not expect them to thrive; if you have but a scanty supply of poor straw, you do not expect your cows and oxen and horses and sheep to get fat on that alone; so, if you have no manure of any kind to apply to your land, you do not expect large crops of wheat, or corn or rye. These you will say are all common place remarks—every body knows all this very well. The object of bringing all this common place matter before you, is merely to lay the foundation, as it were, of the building. You all admit that food is as necessary to plants as to animals. The next question is, how do they take it, and how appropriate it to the supply of their necessities? We do not *see them* take it by the mouthful and masticate it, and swallow it; but it does not follow that they do not do this because we do not *see* them do it. There are at the ends of the roots of all plants, small, extremely small mouths through which they take food. Those little, extremely fine hairy roots, have small openings by which they take from the soil such matter as is nutricious. This matter is dissolved by water in the soil, and thus rendered fit to be taken up by the roots of the plants. That is, the nutritious principles that may be in the soil are dissolved by and combined in water. They in this medium enter into the sap vessels of the plants; just as do the nutricious principles taken into the stomach of animals, enter into the blood. In this way they are carried up the plant to the leaves, where they are exposed to the action of the atmospheric air; as is the blood carried to the lungs in animals for the action of the air. When the sap or circulation of the plant has had sufficient exposure to the action of the air, through the medium of the leaves, it commences its return downwards towards the roots, supplying in its way such parts of the plant as need renovation or addition of woody fibre, &c. and when such quantity as is needed has been thus taken by the various parts of the plant, the balance, if there be any, and that which has been rejected as innutritious, is voided in the form of excrement, by the roots, just as is done by animals.

We now come to consider the form or nature of the nutritious principles taken from the earth. All the different constituents of nutrition are in the soil and mixed together mechanically or chemically. They are dissolved and held in solution by water. The roots of plants absorb this solution in such quantity as may be required by the plant, and it passes into the plant through the channels formed for the purpose called sap vessels, analogous to veins in animals, and immediately ascends to the leaves, where it receives the necessary action of the atmosphere—some say it receives the necessary supply of carbonic acid gas; I suppose it receives in addition to carbonic acid gas, nitrogen; that is, that it is nitrogenized as well as carbonized, just as is the blood of animals oxygenized. It then returns towards the roots, through another set of vessels, analogous to arteries in animals, and as before remarked, supplies each part of the plant with the necessary material to restore its waste or aid in its growth. In this process, the plant does not take up crude matter, charcoal or lime, or potash, but the elements or gases that are found in the sap, and that constitute these and other portions of the plant. This whole process is precisely the same as that through which the nutrition of men and animals is carried. Now if we apply common salt to a piece of ground, we must not understand that the plants growing on it will take up salt in substance. If they take any thing at all, it will be the elements that constitute salt, or those formed by the combination of those elements with such suitable materials as may be found in the soil. And so with other articles. Suppose we apply potash to the soil, in the form of ashes or otherwise, if there be silicic acid in the soil, then silicate of potash will be found mingled in the sap of the plant, from which the plant will obtain that glossy coating which we see on the outside of straw, cane, &c. If there be no silicic acid in the soil, and there be potash there already, then it is obvious that silicic acid, not potash, is to be added. So with all other constituents of plants. It is perfectly impossible for a plant to take from the soil any organized substances, woody fibre, potash, &c., but it must take the elements of such in solution, and form and appropriate them by means of its own organs, just as animals do. Hogs do not take their *pork* and *bristles* from the corn they feed on, but they make them from the elementary principles they obtain from the corn and atmosphere. We hear people talk of *sour soils;* there can be no such thing as a sour soil, *as such,* or *per se.* Some vegetables grow on any and all soils; and if nothing else grows there, it does not follow that the soil is *sour,* but simply that there are none or not enough of the elements of other plants to supply their growth. For example, starch is composed of carbon, oxygen, and hydrogen; and sugar is composed of the same elements, only in slightly different proportions. Now oxalic acid, (the acid of sorrel,) is composed of carbon and oxygen, and these elements must necessarily exist in all soils; add hydrogen, which will certainly be supplied by rain water in abundance in all soils, and you will have the elements of starch and sugar, as well as those of oxalic acid. But you may add potash to what is called a sour soil, or lime, or soda, and still sorrel will grow there; because each plant takes from the soil and from the atmosphere, that which it requires to constitute its substances, and nothing else. You may make the most perfectly rich soil that ever lay *out of doors,* and plant sorrel or the oxalis, in it, and you will find that they will thrive equally with all other plants; just as all varieties of animals, thrive; horses, hogs, sheep and birds, on the same farm, each one taking that sort of food that suits it. The great mistake, and that which has caused much loss to farmers, is the supposition that plants convert compound or combined substances as such, into nutrition. The fact is, that all substances that afford food for plants are reduced to their original elements in gaseous or watery form, or in both, mixed. Water affords in itself a valuable source of nutrition to plants. It contains hydrogen, and there are few portions of the plant that do not want hydrogen; it contains oxygen, and there is not a single part or po tion of the plant, (let it be what plant it may,) that does not contain oxygen. Water is besides, in plants as well as animals, a solvent for the other elements of nutrition. The blood in animals, cannot exist without it; or if it can exist, it cannot circulate to the advantage of the animal; just so with the sap of plants. Water not only affords as it were a vehicle for the conveyance of nutrition to the various parts of plants and animals, but also a considerable and indispensable portion of the nutrition itself.

As an illustration of these principles of nutrition, a well known fact in horticulture may be mentioned. If in the fore part of summer, after the tree has shed its blossoms, you *ring* the limb of an apple tree, that is, take off the bark for a quarter of an inch around the limb, near the trunk of the tree; or, which answers equally well, place a small wire around the limb near the trunk, drawing it tightly so that it shall be made to sink into the bark all around; you will find the limb will increase in size above the ring, but not below it; and the fruit, if it bear fruit, will be larger and ripen sooner on that limb than that on any of the others. The reason is, that the ring has intercepted the descent of the nutricious sap from the leaves at the top, and thus compelled its conversion to the growth of the limb and the fruit above the ring.

The conclusions to be drawn from the principles above laid down are obvious. 1st. Plants take nourishment precisely as animals do, except the apparatus, (the mouth) and mode of taking it, differ in form. Plants as well as animals, reduce all substances that contain nutricious principles to their original elements, before they convert any portion of them to their own organism. Therefore, when we apply stable manure to soil, we do so merely to enable the soil and the plants to extract from it the nitrogen, &c. that its ammonia contains. The plants do not take up ammonia, but simply one of its elements, nitrogen. The elementary principles of the manure are all in like manner taken up and combined. If there be an excess of any one element, that excess is excluded from the sap; and if the sap contains an excess of any principle, that excess is ejected in the form of excrement. Indeed this paper may be appropriately concluded witth the remark that *life is supported by death.* Death must take place in *something,* before *any thing* can receive nutritive matter; because it is from the death and dissolution of one thing, that the nourishment of another is obtained. If animals and plants do not die, man cannot live or be supplied with meat and bread; and if animals and plants do not perish, plants cannot live. From the dissolution of one body, animal or vegetable, another body derives the elements of its own growth, its woody fibre, sugar, &c.; its flesh, bone, &c. But every thing must be reduced to its original elements, before its constituent principles can be appropriated to other forms. In fact, all processes of life, in both kingdoms, animal and vegetable, and the mineral too indeed, are nothing more than the changing of places of the elements of organization. An animal dies, its body *decays,* as we call it. But this body does not decay. The elementary principles of which it is composed, merely *separate,* and form new combinations—one portion enters into and becomes a portion of a plant, probably a rose or a lilly, probably of a skunk; just so with a plant. A portion of its constituent principles becomes absolutely a part and portion of the body of Queen Victoria, or of that of a goose, or of that of any other animal. But let us stop. The IDEA intended to be conveyed in this paper, must by this time have become obvious—vegetable nutrition is the same thing, neither more nor less than animal nutrition; governed by the same laws, resulting in the same effects, requiring the same provision. GIDEON B. SMITH.

NEW KIND OF CABBAGE.

Mr. John Lossing showed us the other day, what he calls a *Roman Cabbage.* The variety seems to possess some peculiarities. It is more solid, and heavier in proportion to its bulk, than any we have seen. It also grows very quick. The head shown us, weighed 20 pounds on the 20th of July. Its shape is oblong, and much pointed at the top. It is said to keep better than any other cabbage. The seed was brought into the country by some Germans.

APPLES AS FOOD FOR ANIMALS.

Apples, when ripe, afford more or less nutriment to animals. Sweet apples are generally supposed to be most nutricious, though we are not certain that this supposition is correct. Our fathers and grandfathers held that sweet apples would fatten hogs; but in latter years, it has been proved that hogs will fatten on apples that are not sweet.

A hog is naturally an epicure—(we don't say an epicure is a *hog*)—and when left to himself is a pretty good judge of what is best. Observe, then, what are his natural habits. Put him in an orchard where there are various kinds of apples, and see how he will work, or rather how he will *eat.* He will always select the most *palatable* apples—he will not confine himself to one kind, nor to sweet apples alone; but will go over the orchard and pick out the choicest fruit, always choosing that which is in such a state of ripeness that its qualities are nearest perfection. Like the boys, his regular haunts are the "*best trees,*" whether the apples are sweet or pleasantly sour; but he never eats a real *crabbed* apple, or an unripe one, unless forced by hunger. We should therefore infer from the natural habits of the hog, that if we wish to obtain the greatest thrift from him when feeding on apples, it is best to feed him partly with those which are sweet, and partly with those which may be called subacid.

When hogs or cattle are being fed principally on grain, their appetite, health and thrift, will be found much improved by a small allowance of raw apples, occasionally. As a regular food for hogs, the value of apples is undoubtedly much improved by cooking, either by steaming or boiling. If they are to be fed by themselves, steaming is probably best. But it is believed that the most judicious way is to boil or stew them thoroughly, and mix with them while hot, a portion of meal. This checks the laxative nature of the apple, imparts additional value, and causes the food to be retained in the stomach and intestines a sufficient length of time for the whole nutriment to be extracted. The meal may be made from Indian corn, rye, barley, buckwheat or oats and peas. We think we have never seen hogs fatten faster, than when fed on the following kinds and proportions of food, viz: a bushel of potatoes and a bushel of apples boiled together, and when sufficiently soft, a peck of oat and pea meal stirred into them, having the mixture when cold, about the consistency of good stiff mush, or "hasty pudding." The pork was solid, sweet and good. Some experiments made several years since by Payne Wingate, Esq. of Hallowell, Maine, a very close and accurate observer, showed that apples were worth more than potatoes for fattening hogs, especially when both were cooked and mixed with an equal portion of meal. Apples are also excellent for cattle. We have repeatedly witnessed their effects in the thrift and smoothness of the coats of cattle to which they were fed at the rate of about a peck per day, during the winter. Fed regularly, in this quantity, they increase the quantity and richness of the milk of cows, while the condition of the animal is likewise improved.

It is the opinion of some very judicious farmers, that a given quantity of ground will afford more nutriment for any kind of stock, when appropriated to apple trees, than when devoted to any other crop. Our own experience inclines us to favor this conclusion, and we think our friends, who for the promotion of temperance, have cut down their orchards, have shown a "zeal not according to knowledge." They seemed not to be aware that the same substances which produced the deleterious effects that they desired to avoid, might be converted into wholesome and substantial articles of human sustenance.

CEMENT FOR GLASS WARE.

Cover the broken edges with a thin coat of common white-lead paint, and then pass a cord round the glass article or vessel, to bind the parts closely together. In a few weeks it will become perfectly dry, and will be found to have adhered very firmly together. Tried by the writer, and known to be good. J.

PLANK ROADS.

George Geddes, Esq. of Camillus, N. Y., has visited Canada for the purpose of examining the plank roads there. From his report, we gather the following. On the great road from Toronto to Kingston, there is 14 miles of planks. They were laid eight years ago—16 feet long and 3 inches thick, on 4 sills, 4 inches square, fastened by one spike in each end of the plank. These planks are just worn out, and are now being replaced on the old sills, which are yet sound. A part of the road above alluded to, was McAdamized, and Mr. Geddes was informed by one of the commissioners, that the repair of the McAdamized part had cost $400 per year, while the planked part had required no repairs for eight years. Heretofore only one track has been used, by which the planks have been worn out in the middle, while the ends are sound. It is now proposed to lay two tracks, 8 feet wide and 4 feet apart, which will obviate the inconvenience of meeting teams or carriages on the same track. Large loads are carried on these roads—a single pair of horses haul three cords of pine wood at a load—and they are the most agreeable roads to ride on imaginable.

The experiment of plank roads has been fully tried, and the success has been such, that in Canada West, four are now building.

Mr. Geddes submits an estimate of two tracks, each 8 feet wide, made of 3 inch hemlock plank, and sills 4 inches thick and 6 inches deep, estimating the price of the lumber at $5. per M. delivered on the track, and the necessary grading, based upon the contract prices in Canada, for the like work.

Estimate.

126,720 feet of plank per mile, at $5 M.	$633 60
31,680 feet stringers, at $5 M.	158 40
Laying down per mile,	272 00
	$1,064 00
For two tracks, double,	2,128 00
Ditching per mile,	160 00
	$2,288 00
Add 10 per cent,	228 00
	$2,516 00
For 10 miles, at $2,516 per mile,	25,160 00
Three gate houses, at $300 each,	900 00
Engineering, say,	500 00
	$26,560 00

Mr. Geddes has no doubt that where lumber can be had at these prices, plank roads are to be preferred to any other kind.

ANALYSIS OF SOILS.

Every farmer should have an understanding of the nature of the soil he cultivates, of its constituents and their proportions, as else he may add that which is of little use, and withhold that which is most essential. The most material parts of soils are sand, clay and lime. All are essential to a good soil, though the last is much more sparingly distributed by nature than the first, and some plants are found to flourish in that in which no trace of lime can be discovered. Some of the most fruitful soils on the globe, such as the alluvial of the Nile or the Mississippi, contain but two or three per cent of it. In ordinary soils, however, one per cent is one pound to the cubic foot, which would give ten and a half tons to every six inches of depth in soil on an acre. From the quantity of the earths found in the cereal grains, and particularly lime in some of its forms, it seems probable that where it exists in but small quantities, and no immediate source of supply is at hand, that substance may be exhausted by constant cropping, at least to such an extent as to render the perfection of such grains impossible. It would appear necessary then by analysis of the soil to determine whether any of the matters essential to vegetation are absent, that they may be supplied. We have in former volumes of the Cultivator, given distinct modes of analysis, but the one adopted by Dr. Jackson, appears to be very complete in its results, (though perhaps partaking too much of the chemist's laboratory for the common farmer,) and we copy his process as given in the Geological Report of Rhode Island. The analysis was of the soil from the valley of the Nile.

"One hundred grains of the soil dried at 300 deg. Fahrenheit lost 7.05 grains. Its vegetable matter was then burned out in a platina crucible, and the loss was 6.90 grains. The soil was then mixed with four times its weight of potash, and was fused at a full red heat in the platina crucible, so as to render the whole soluble in water. The mass was then dissolved out from the crucible by means of boiling water, and was acidulated with muriatic acid, and then evaporated to dryness, so as to render the silica insoluble. The whole mass was then rubbed to a fine powder with an agate pestle, and moistened with muriatic acid. Then all the matters soluble in acidulated water were taken up by means of distilled water. The whole was then poured on a double filter, and the silex was collected, washed till pure, dried and ignited; the second filter being burned and counterpoised against it. The silex, weighed while warm, amounted to 47.39 grains. The solution that had passed the filter was then treated with a little nitric acid, and boiled to per-oxidize the iron. Ammonia then being added in slight excess, the aluminæ and per-oxide of iron precipitated together, and were collected, washed thoroughly for several days with boiling water, until the water came through the filter pure. The alumina and per-oxide were then separated by means of a boiling solution of pure potash, in a silver crucible. When all the alumina was taken up by the potash, and the iron had subsided, it was filtered in a double filter, and the per-oxide being collected, washed, dried, ignited and weighed, amounted to 11.20 grains. The alumina was separated by neutralizing the alkaline solution, and was then precipitated by means of a solution of carbonate of ammonia. When collected on a filter, washed, dried, ignited and weighed, it amounted to 32.10 grains. The solution from which the alumina and iron had been separated, was then treated with a solution of oxalate of ammonia, and the brine was precipitated in the state of an oxalate, and when collected, washed, dried, ignited and converted into a carbonate, weighed 2.85 grains. The solution remaining being treated for magnesia, gave no trace, but a little manganese was detected by hydro-sulphate of ammonia."

The soil of the Nile then, (and this method of analysis is applicable to all other soils,) contains in 100 parts of dry soil—

Vegetable matter,	6.90
Silex,	47.39
Alumina,	32.10
Per-oxide of iron,	11.20
Phosphate and crenate of lime,	2.62
	99.61

For further examples of the analysis of soils from some of the best farms in New-England, from Batavia, Africa, Cuba, New-Orleans, &c. we must refer to the Report itself, which on this point is one of the most instructive that has yet been presented to the American public. We are not of the number who imagine that lime applied to *poor soils* will give them fertility; but we have reason to believe that although in a soil destitute of lime in any of its forms, manures will produce a great growth of plants, wheat for instance, yet the stalk will be flexible, the grain likely to lodge, and the berry light and worthless, without the presence in some form of this necessary earth.

To kill Crows.—A writer in an English paper says, "a short time ago a farmer took a quantity of corn (grain) and steeped it in arsenic, and placed it in different parts of the field, to see whether the rooks (crows) would eat it or not. They soon carried it off, and they were found dead many miles from the place where they had got it, and the man was of course troubled with them no more."

AGRICULTURE AND HUSBANDRY OF THE SOUTH.

We are furnished by the last number of the Southern Agriculturist, with a most excellent Address on the Agriculture and Husbandry of the South, delivered by Gen. James Hamilton, at the formation of an Ag. Society at Fort Mitchell, Russell Co. Alabama, on the 4th July last. The author evinces a thorough acquaintance with agriculture in general, and particularly with that of the region of country for which his remarks are especially designed. We cannot doubt that such addresses as this, in connexion with the spirited and praiseworthy exertions of many enterprising citizens of the South, will exert a most salutary influence in the improvement of agriculture.

We present our readers below with several extracts from Gen. Hamilton's Address. The handsome tribute therein paid to our friend Dr. N. B. Cloud, we have no doubt is well deserved, and we heartily rejoice that his labors in endeavoring to introduce a new and vastly more profitable mode of cultivating the great staple of our southern neighbors, are beginning to be properly appreciated:

"I think it may be assumed as a postulate, that about as much cotton is produced now as can be gathered, but I am equally certain by the improved mode of manured and checked culture, that half the land now in cultivation will give the same return. In other words, I believe five hundred acres of cotton in the new mode of its cultivation, will produce as much as a thousand in the old. In order to embark in this recently recommended culture, it is admitted that a large and accumulating stock of manure is necessary. It is however to be remembered, the seed of one crop will nearly manure one-half of the succeeding one, by resorting to the check culture, and by carefully littering and stabling our working animals and stock the whole year round, an amount of compost to manure the other half may be made. But after all, the great magazine for restoration and improvement of our soils, is at our own doors, through the region of country we occupy. Marl constitutes a never failing source of renovation. It renders porous soils more compact, and clay soils more friable, and is the most powerful agent yet discovered for decomposing vegetable matter, and converting it at once into manure. It is in this last particular it performs its most beneficial office. It has been found equally as fertilizing to cotton as to any of the cereal or root crops. Virginia has been renovated by its use. It has checked emigration in that State, doubled the product of the counties in which it has been used, and very nearly increased the price of farms in the same ratio. Yet the marl in Virginia does not average more than 60 per cent of the carbonate of lime, its constituent element of usefulness, whilst the marl of Georgia and Alabama reaches nearly 90 per cent—a vast difference in our favor. Let every farmer commence at once a search for that valuable mine on his farm. It is easily detected by its brown and greenish incrustation, in which are imbedded small fragments of sea-shells."

"In many parts of South Carolina where marl has been applied, the cotton crops have been nearly if not entirely duplicated, and although our soils are less worn than hers, it behooves us at once to commence a resort to this great mine of agricultural wealth. It ought at once to constitute an object of our Society, to obtain detailed instructions for its use and application. It is not, however, alone by the use of manures, that our cotton crops are to be increased—the great elements of solar light and heat are no less essential. Hence our cotton rows ought invariably to run south and north, that not only the least amount of shade should be cast on the plant, but that as our winds prevail in the summer months, the highest amount of atmospherical nourishment may be given to the plant. The necessity of this will be manifest, when it is recollected how much atmospherical nutrition the cotton derives from absorbents of its redundant foliage. I believe moreover, after the full moon in July, the perpendicular stem of all cotton over four feet and a half high, should be topped, and the two or three of the long lateral branches on the full moon in August. I am satisfied that in rank and wet seasons, we should make at least one-third more to the acre by adopting this process."

"By this improved mode of culture, through the instrumentality of a system of manuring, I believe, we may make one acre produce as much as two by the old denuded process, by which we take every thing from the soil and return nothing to it. The consequences to our operatives from this mode of cultivation, by which we give to one acre the productive energies of two, are of inestimable consideration. First, one half of the horses and mules which we now use to go over an immense space of imperfectly cultivated soil, may be dispensed with, or used for the garden cultivation of a diminished number of acres. Secondly, to our slaves how greatly will the burthen be lightened, by tilling one-half of the quantity of land, yet in the end having a harvest equally or perhaps even more abundant to gather? To say nothing of the increased facility of the harvest itself, by pulling two thousand pounds of seed cotton on one acre, instead of one."

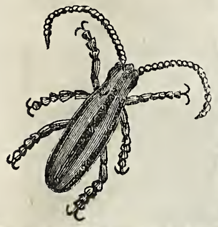
"At the Bend, I have this year planted in the check, twelve hundred acres of cotton, six hundred I have manured, the other six are planted in the first rise of the swamp, in a rich alluvium of untouched fertility requiring at present no manure. Two hundred acres of the former, on the second level of the swamp, are on a stiff clay flat. The cotton was planted in this field on the 1st of May. It did not receive a drop of rain until the first week in June. The consequence has been, that I have encountered incredible difficulty in obtaining a stand; some of the land was re-planted five times, and none less than three. It was not until the 10th of June, by unremitted efforts, I at last succeeded in setting the crop in this field. I advert to this miscarriage for the purpose of indicating its remedy, to wit:—of giving a deep winter close furrow plowing, to all the lands you design for the check culture, and harrowing them early in the spring before you check off, after they have been rendered friable by the winter rains and frost, and another spring plowing. I believe I might have thrown up and abandoned these two hundred acres, and still that at the first level of the Bend, I will make more cotton, from present appearances, than my whole force can gather between the 15th of August and 15th of January, from manuring and adopting the check, and discarding the drill culture. On my first level, I have checked five feet by four, and on the second level four feet square. I believe, however, five feet by three in the most fertile soils, and four by three in those of less richness, will be the right distance."

"My corn on Cantey's fraction, which I think the richest piece of high river bottom I have seen this side of the Brasos and Colorado, I have planted in squares of three feet, and thinned to a single stalk. It is the best eared corn on my place, and will average, if no disaster occurs, nearly two ears to the stalk."

"In noticing the check culture, I should be singularly unmindful of the claims of an individual who has most successfully directed the public attention to it, if I did not pay a willing tribute to the intelligence and ability with which he has illustrated the philosophy on which it rests. You will understand, gentlemen, that I can allude to no one but Dr. Cloud, of Macon county, who by his careful analysis and induction of facts, has done much I believe to diminish the labor and augment the product of the cotton crop of the United States. That his theory rests on the true philosophy of the plant, I entertain as little doubt, as I do that its introduction will mark a new era in the culture of our beneficent staple. You will permit me to remark, that this system of manuring and planting in the check, takes off half the tax on our lands, by allowing us to fallow half, or enables us to double our product in provisions and stock, if desirable. Indeed, a system of steady and efficient manuring, combined with an alternation of our crops, and of fallowing the most exhausted of our soils, constitute the best recipe for renovating an old country and preventing a new one from growing old."

Pick carefully all winter apples for sale and for use, and save all other apples for pigs and other farm stock, for which they will be found very valuable in winter.

APPLE-TREE BORER.



Saperda bivittata—Apple-tree Borer.

In most of the older settled parts of our country, the owners of apple orchards are aware that their trees are frequently attacked, and much damaged, if not destroyed, by insects which perforate the bark of the tree, and penetrating the wood, destroy the circulation of the sap, and thus effect great mischief. The history of this insect, called the apple tree borer, has been involved in much uncertainty, and even now there are some perhaps unessential points not fully elucidated; but the main things, the appearance of the insect itself, the time of its depositing its eggs, and the way in which the evils they occasion may be remedied, may we think be considered as very well settled. Dr. **Harris**, the well known able entomologist of Mass. led the way in this investigation; but we think, so far as the practical results are concerned, the greatest credit belongs to Mr. **Buckminster**, the veteran editor of the Plowman. By a long series of careful observation and experiments, he has arrived at the following conclusions:

"That the beetle, the parent of the grub or larvæ, (in which stage the mischief done by the insect is produced,) makes its appearance on the stage in June, and about the first of July, she is in the habit of making provision for her offspring. That she usually lays her eggs, ten in number, on the body of the tree, near the surface of the earth, and in this form, not larger than the head of a pin.

o o o o
o o o o o o

"That the eggs are hatched out in a little more than eight days, when a white maggot appears. That the maggot or grub burrows in the bark of the tree, and proceeds no farther the first season. That during the second year he bores into the body of the tree, upward. That in the third year he is found up eight or ten inches higher than where he commenced; and that in June of the third year he or she comes out of the tree fully winged, when she is ready to lay more eggs."

Mr. Buckminster very well remarks that considerable allowance must be made for the time of the insect's depositing its eggs, as from observations made by himself and others, there are some ten or fifteen days difference between the first and the last of their appearing. Mr. Buckminster confidently recommends washing the apple trees about the time the eggs are deposited, or near the time of hatching, with lye strong enough to float an egg, as his experience shows that this application will kill the eggs and the young larvæ without injury to the tree. It would appear, however, from the papers of correspondents in Mr. Buckminster's Journal, as well as the other Mass. Ag. papers, that the application of lye has not in all cases prevented the attack of the borer.

We would suggest there may be several reasons for this. It is possible the application of the lye was made before the eggs were deposited, or the larvæ had proceeded from them; or it may have been delayed so long that the young borer had entered the bark so far as to prevent the wash from reaching him. It is also possible that the trees themselves contained larvæ in some of the stages of their existence, and as these would not be affected by the application of the lye, they would go on, form the perfect insect, and thus perpetuate the evil in spite of the single washing, even admitting that such washing with lye destroyed as we think it would, all the eggs and young grubs it touched. It is also possible the tree was not sufficiently scraped before washing, to remove all rough bark, as under such bark the eggs are frequently deposited; and if not removed by scraping the tree thoroughly, it might prevent in many instances the contact of the ley with the egg or the young. We think then, those whose orchards are infested with the borer, will do well to wash their trees with lye, first paying attention to the following things:—First, see that all grubs existing in the tree are thoroughly eradicated by cutting them out with a knife or narrow chisel, or destroying them with a flexible barbed wire. Second, see that the trees are thoroughly scraped before the wash is applied. Third, apply the lye wash twice in the season at such an interval as shall embrace all the eggs deposited, or the grubs hatched; and fourth, repeat the washings for two or three seasons, or until the insect has wholly disappeared. Washing with lye is one of the best applications for trees we have ever seen used, giving a smooth fine bark, and unusual vigor to the tree. It is possible that a heavy coat of whitewash, laid on after the scraping of the tree, might prevent the eggs from hatching, or hinder the beetle from depositing them, but we have no experiments to prove conclusively that such would be the result, and it is certain that neither whitewash or lye will affect the grub after it has once penetrated the tree, or prevent the emergence of the perfect insect. Insects are so injurious to fruit trees, that they deserve more attention than has yet been given them by the public, or by those best qualified for the task of observation, the men of science in our country.

LARD OIL.

This new article of manufacture, bids fair to be of incalculable benefit to the great pork-growing region of the west. Although it is only about three years since the making of oil from lard was commenced, it already to a very great extent supercedes the use of sperm oil. A great deal has been made, as was to have been expected, in the outset of the business of an inferior quality, which has been offered at a low price, and purchased on account of its cheapness. The poor quality of this oil, has led many to conclude that it cannot be made to answer in place of sperm oil. From a Cincinnati paper we learn that one firm in that city, manufactures 80 kegs of lard per day. The product in winter is one-third elaine and two-thirds stearine; in summer, the proportion is exactly the reverse. The oil thus manufactured is equal to 200 gallons per day. The value of the oil and stearine shipped from this single establishment during the last sixteen months, is over $100,000. In the pork season, oil is made directly from the hog.

The paper referred to, states that before the manufacture of lard oil, sperm oil was sold at from $1.25 to $1.50, and that the corresponding qualities of lard oil can now be had at 50 to 62½ cents.

There is the same difference, and from the same cause, between summer and winter *lard* oils as in summer and winter *sperm* oils. The article made in summer holds more or less stearine in solution, which the access of cold weather readily detects, and renders necessary that the winter supply should be made as that season approaches.

Lard oil is made in Cincinnati in twenty-two establishments, which manufacture an aggregate of 600,000 gallons per annum, value at 50 cents, nearly one-third of a million of dollars. The value of the stearine and other residuum, must be at least as much more, these articles having steadily advanced in price since the introduction of the lard oil manufacture.

NEW GRAIN DRILL.

The *Argus*, published at Marietta, Pa., notices a machine for sowing grain, invented by Messrs. Haines and Kilburn. It is stated to have performed its work perfectly, though the ground was not in a very good state for sowing. It is described as follows:—"The manager of the drill stands upon the hind part of the machine, with a handle that reaches from the large wheel in front by which he is enabled to guide the machine. It sows the seed in drills nine inches apart, and five drills at a time. The seed passes from a hopper or box to the hollow teeth that open the ground, and the seed passing down directly behind, falls in the furrow, and the dirt falling back directly upon the seed, and a roller following, presses the seed in. The depth of the planting can be varied by simply turning a screw. The teeth are fixed in pieces of scantling, which are separate from each other, that they may follow the unevenness of the ground, and so plant the seed at a regular depth in the ground." The price is $50.

VIEW OF THE NEW-YORK STATE CATTLE SHOW.—Fig. 90.

THE STATE FAIR AT POUGHKEEPSIE.

Another great State Fair and Cattle Show, with its attendant and innumerable objects of interest to the enlightened agriculturist, its superb assemblage of striking products which every tributary of the great flood of agricultural improvement had poured, in their concentrated vastness, to this spot, its congregated myriads of people, brought together by the thrilling interest which ever clusters around this great art of the arts of Peace,—has taken place, and passed away. Few or none of the many who have attended from all parts of the State and from other States, can ever regret the pains they have taken to witness the exhibition, and its truly noble scenes and magnificent display.

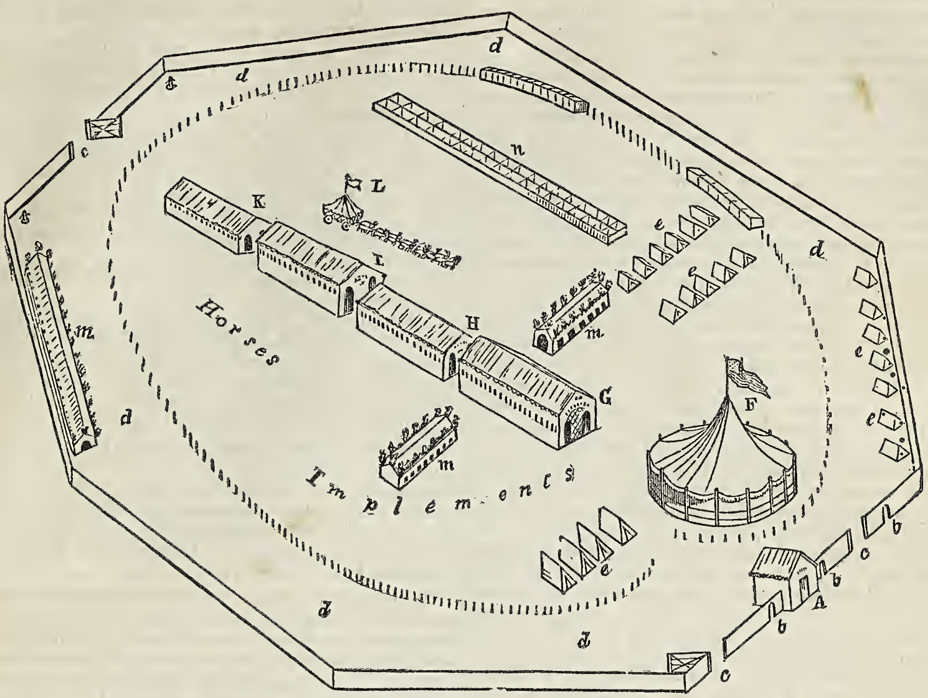
The ground selected for the occasion was an elevated plain, commanding extensive views of the surrounding country, to which the mountains in the west, and the blue ranges of the distant Highlands, gave a varied outline and interest scarcely to be surpassed. A large field of ten acres was enclosed by a high fence, within which all the objects of the fair were collected. The number of people admitted to the grounds on the two days of the exhibition is supposed to be not less than from twenty-five to thirty thousand.

A line of large buildings, erected for the purpose, extended for several hundred feet through the center of the grounds, and formed a leading feature of attraction. The first, which was 36 feet wide and more than 100 long, was inscribed over the entrance, "FLORAL HALL," in rich letters of evergreen on a white ground. The whole interior of the building, as well as the entrances, was richly ornamented overhead with beautiful and massive wreaths and festoons of evergreen. In the centre of the building was a splendid outline Temple "Dedicated to Agriculture and the Arts," consisting of a high evergreen arch in the middle, interwoven with flowers, flanked with square wings, equally tasteful, on the sides. In the center and surmounting the whole was the inscription "Agriculture," and the numerous articles arranged within this arch, were the appropriate details of the great leading subject, among which were the tall lance-like stalks of corn crossing the middle, the suspended heads of wheat and other grain, the paintings of domestic animals, and a large assemblage of other articles, beneath the whole of which was a beautifully ornamented miniature plow, the origin and foundation of the whole. Under "Manufactures," were collected specimens of fabrics, domestic silks, and numerous others of an appropriate character. Under the chaplet inscribed "Horticulture," was a most interesting exhibition of rich fruits and brilliant flowers. Numerous tasteful emblems and inscriptions were interspersed through the whole, and with some fine ornamental figures, decorated the base. The whole of this outline temple, which contained thousands of appropriate specimens, and which occupied a space of 26 feet in length and 12 feet in height, was designed by Alexander Walsh of Lansingburgh, to whose imaginative taste and unwearied labors, the public are very largely indebted for the interest and attractions of these extensive halls. We have a drawing of this Temple, an engraving from which we shall hereafter present to our readers.

A double line of tables extended through the center of this building, densely loaded with a magnificent display of fruits on either side, and a long range of flowers arranged in wreaths, temples and pyramids in the center. Among some of the best collections of fruits, were handsomely arranged specimens of a hundred fine varieties of apples, eighty of pears, and many of other fine fruits, from A. J. Downing & Co. of Newburgh, extending compactly for 40 feet along one side of the table; also extensive collections of apples from R. L. Pell of Ulster, J. R. Comstock of Dutchess, J. F. Osborn of Cayuga, Alex. Walsh of Lansingburg, from his Hoosick farms, and large and fine collections of pears from James G. King, Highwood, N. J., J. R. Comstock, Wm. Reid of Murray Hill, N. Y., and also excellent specimens of grapes from R. Donaldson, J. Merritt, S. Van Rensselaer, and many others. The whole display of fruits, though defective in a few particulars, exceeded in variety and extent that of any previous exhibition of the State Society.

The vegetables, suspended from the sides of the tables and beneath, presented a very fine array; among which was a superb lot from the garden of R. L. Pell, of Pelham, Ulster county, consisting of very large mangold wurtzels, true blood-beets, carrots, parsneps, sugar beets, Patagonian gourds, 5 feet 8 inches long, squashes weighing 152 and 200 lbs., monkey bread very curious, ten varieties of table squashes, cabbages weighing 30 lbs. Mr. P. also presented very beautiful samples of fine heavy wheat, rye, oats, buckwheat, Egyptian corn and wheat, Indian corn 17 feet high, yellow and white flint and sweet corn, 40 varieties of seedling and 27 of grafted apples, Catawba and Isabella grapes grown under glass, very large gooseberries, 3 kinds of currants, a floral ornament 17 feet high, shad from his fish ponds, &c. Some other collections also exhibited great excellence and skill in culture.

Among the Agricultural and Horticultural products, we observed an enormous pumpkin of the *seven years* variety, weighing 126 pounds—some heads of millet a foot in length—and some Washington peaches ten inches in



ISOMETRICAL VIEW OF THE ENCLOSED GROUNDS.—(Fig. 91.)

A. Business Office—b. b. b. Foot Entrances—c. c. c. Carriage Entrances—d. d. d. d. Carriage-way, with posts and sheds for cattle and horses within—e. e. e. e. Committee's Tents—F. Large Tent—G. Floral Hall—H. Ladies' Home—I. Manufacturer's Lodge—K. Farmer's Hall—L. Hyde Park Agricultural moving Temple—m. m. m. booths—n. Pens for Sheep and Swine.—Area, 10 acres.

circumference and weighing eleven ounces, all presented by Mrs. M. Vasser, of Poughkeepsie.

One of the most truly valuable and meritorious articles ever shown at any fair in this country, was a neat glass case containing 35 varieties of wheat; heads and shelled specimens of each variety, being arranged with great neatness in separate apartments of the case. A large portion of these were cultivated, and all arranged and presented by Gen. R. Harmon of Wheatland, Monroe co., whose labors in testing the various qualities of different sorts, have already proved of so much value to the agriculture of this country.

Numerous paintings of cattle, horses, and of rural scenes, decorated the walls on each side.

The second building, inscribed "LADIES' HOME," was enriched with a gorgeous display, consisting of a vast collection of articles of taste, splendor, and skill, among which were superb specimens of needlework on screens, coverlets, rugs, chairs, and in landscapes; temples of shell-work,—and hundreds of other things of great splendor. So fine indeed was this display of fancy productions, that we were almost led to question the propriety of thus eclipsing the more humble, but pre-eminently useful and substantial products also handsomely arranged here, among which were many excellent specimens of quilts and other articles of domestic use and comfort, conferring the highest credit on the truly worthy contributors.

The third building, entitled "MANUFACTURER'S LODGE," contained an excellent collection of fabrics, including a large assortment of cottons and mixtures from the Mattewan Company; a superb display of cloths, consisting of 62 different kinds, from the Middlesex Woolen Company, Lowell; fine carpets from the Thompsonville Company, and from C. M. Pelton, A. Ross, and others of Poughkeepsie. There were specimens of good solid-head pins, made by Mosely, Howard & Co. Poughkeepsie; and models of many useful domestic and rural contrivances and machines of great interest.

The fourth building, "FARMER'S HALL," was occupied with an exhibition of flour, salt, butter, cheese, sugar, and all coarse articles of domestic production, as well as cooking stoves, fanning mills, washing machines, &c.

These four buildings, being in one continuous line, and open at the ends, presented a vista 500 feet long, which, with the innumerable articles there exhibited, and the congregated thousands constantly passing through, gave an extraordinary interest to the scene.

One of the most truly magnificent objects of the kind ever seen, was the "FARMER'S CAR," from Hyde Park. This vehicle, from the nature and style of its decorations, might have been taken as the combined work of the most refined votaries of the divine trio, Ceres, Pomona and Flora. The body, or frame work, was 26 feet in length, by ten in breadth and twenty in height, covered with a magnificent canopy of evergreen festoons and wreaths, and presenting the form of a sylvan temple, the walls or sides of which were nearly one entire mass of vegetables, fruits, flowers, and farm productions generally, some of them of extraordinary size and excellence. The inside had the appearance of a bower, with rustic chairs, made of the grape vine, cedar and oak. These chairs were occupied by ladies and children, who from this cool and agreeable shelter, quietly viewed the surrounding scene. The car was drawn by ten yoke of superb oxen from Hyde Park, to which was awarded the premium for the best ten yoke from one town. The color of all was a deep red, with scarcely the variation of a shade—they were well matched in shape and size, and showed much Devon blood. When this splendid car, with its flying colors and coat of arms, first entered the grounds, like a moving miniature temple, among the thousands there assembled the effect and interest produced was almost electric, and several distinguished persons pronounced it as decidedly superior in design and display to any thing of the kind they had ever witnessed. It is no more than justice to say that the decorations of this beautiful Car, were designed by Mrs. D. B. Fuller, and arranged and executed under the direction of Mrs. F. and Mrs. J. W. WHEELER. We had a drawing made of it, which we regret our engravers have not been able to finish for this month.

CATTLE. *Short-Horns.—Bulls.* In this department we believe the show was considered superior to any previous one. At any rate there were many excellent Durham bulls. We noticed "Marius," a young bull, twenty-one months old, bred by Earl Spencer (England,) imported and owned by Thos. Oliver, Esq., Sing-Sing. A very superior animal—the first from Earl Spencer's noted herd we have known imported. "Prince Albert," owned by R. Donaldson, Blithewood—a beautiful animal, 4 years old, 2110 pounds. "Meteor," and "Symmetry," own brothers, Geo. Vail, Troy, both good. "Oseeola," two years old, said to weigh 2300 pounds, C. F. Crosby, West Troy. "Royal William," Mr. Ableman, Albany. "Hawthorn," James Mabett. "Sir Temple," Thomas Addis Emmett, New-York, a very pretty animal. "Orpheus," a bull of immense bulk—suppposed to weigh nearly 3000 pounds—girths 8 feet 6 inches—five years old. Owned by James R. Dickson, New Windsor, Orange county. Mr. D. imported this bull when a calf from Gainsford, (England). This was an exceedingly muscular animal, of prodigious quarters, and seemed to answer the description given by Middleton, of the once famous Teeswater cattle—a variety of Short-Horns. He says, "It is supposed that this breed yields a greater proportion of lean meat in a given weight of beef, than any other; therefore there is less waste of fat, and the meat goes farther in any family. This is the criterion of serviceable animal food; *the greatest quantity of lean meat in proportion to the fat.*" We do not admit the correctness of the "criterion." "Rotterdam," D. D. Campbell, Schenectady. A noble bull. "Trusty," a very well made bull, Wm. A. S. North, Duanesburgh. "Charles the 2d," a white bull which attracted much notice, J. Lenox, Dutchess county. "Sir Peter," Wm. Salisbury, Leeds, Greene county.

Of bull calves, there were several fine ones offered by C. N. Bement, Albany, Mr. Vail, Troy, L. S. Barnard, Platte-kill.

Cows. "Red Lady," (imported,) a cow of most superior symmetry and fineness, showing also good points for the dairy. Owned by Mr. James Lenox. Also several other cows by the same gentleman. Several cows, some of which showed good points, by J. F. Sheafe. A cow of Geo. Vail, showing remarkable milking properties. Also one by D. B. Fuller, Hyde Park.

Heifers. Mr. Prentice, Albany, sent several very superior heifers—particularly Esterville and Nell, which are "hard to beat." "Victoria," an excellent heifer, D. B. Fuller. Several fine heifers belonging to D. D. Campbell, Mr. Sheaf and Mr. Lenox.

HEREFORDS. The only specimens in this class, were eleven head from the capital herd of Messrs. Corning & Sotham, Albany. These were splendid animals. The two years old bull and bull calf, which were all of the masculine gender exhibited, were good—they had fine limbs—very capacious chests, round bodies, &c. Several of the cows were very extraordinary. "Perfection," is one of the most massive cows of her age to be found any where, and "Aston Beauty" and "Victoria," for beauty and finish, can scarcely be surpassed, if equalled. It is but justice to say, that no animals on the ground excited more praise than these.

DEVONS. We saw no bull in this class. L. F. Allen, Black-Rock, exhibited an excellent cow and bull calf. The cow was one of the best Devons we have seen. Mr. Lent, of Poughkeepsie, had also a good cow of this breed, remarkable for the richness of her milk and the fine quality and quantity of her butter. The Devons are a very valuable breed, and we hope to see them increased.

AYRSHIRES. Several good bulls—particularly "Sir William Wallace," presented by John Archibald, Montreal, Canada, and one owned by Joel Rathbone, Albany. Mr. Rathbone had also a beautiful cow and a fine bull calf of this breed. "Victoria," an Ayrshire, belonging to J. Lenox, was a fine cow.

GRADES. We noticed a very superior heifer, 20 months old, with a fine calf by her side, 6 weeks old, said to be Durham and Devonshire. Owned by Joseph Silkman, Westchester county.

NATIVES. A good dairy cow by Z. Pratt, Green county, and another by R. L. Pell, Ulster county. The "native Americans" ought to have been more numerously represented.

FAT CATTLE. The competition in this department was quite extensive. A Durham ox owned by D. D. Campbell, of Schenectady, was universally admitted to be the best animal of the kind on the ground. Mr. Swift of Amenia, Alfred M. Uunderhill, Dutchess county, and James Van Wyck, of Dutchess, had also fat oxen which attracted much attention.

HORSES. In this department, the show was considered uncommonly good.

Among horses of the lighter class, we noticed "Sir Painter," owned by E. Howe, North-Salem, Westchester county. This animal was distinguished by uncommon beauty of head and limb, with many marks of spirit and high breeding. "Florizel," belonging to C. F. Crosby, West-Troy, was well liked by many.

Of those of a larger class, and better calculated for carriage and coach-horses, we noticed "Diomede," belonging to Gen. Salisbury, Greene county; "Seneca Chief," a half-blood Cleveland bay owned by Mr. Ableman, Albany, and a three yrs. old colt, 16 hands high, by "Haphazard," out of a Hambletonian mare, owned by Albert Pray, Union-Vale.

Of *Draught-horses*, Mr. Sotham's imported "Sampson" was looked upon as a great *curiosity*. He is an animal of prodigious muscle and strength, and will be the means of much improving the breed of horses for heavy draught.

There were several pairs of beautiful *match-horses*, among which we particularly observed a pair of splendid bays belonging to Gen. Davis, of Poughkeepsie, another pair a shade lighter in color, belonging to Dr. J. P. Beekman, the President of the State Ag. Society, and a pair of sorrels belonging to Mr. Landon, of Albany.

WORKING OXEN. There were many fine cattle, (in appearance,) in this class, but we think there should be some mode of trying them at work. So far as we can judge, the want of some such test, was the greatest defect in all the regulations of the show. The value of a working ox, consists in his ability to perform labor, and to perform it in a proper manner. Before a proper decision can be made, it is necessary to have some *demonstration* of their discipline and power. The natural appearance of cattle may be ever so good, and in some of the most important requisites of working cattle, they may be totally deficient. Hence the obvious necessity of *proving* the faculties and strength of oxen, by a trial at *work.* We shall speak of this subject again, for we consider it one of great importance.

The fine team of Mr. Wadsworth, from Genesee co., consisting of ten yoke, was much admired—so also was that of the same number from Hyde Park. We noticed a pair of large size, and good form, 3-4ths Durham, from Luther Comstock, of Oneida county. Another pair by H. D. Grant, Amenia, half Devon. Another pair by Isaac Doughty, half Devon, from the stock of Mr. Hurlbut, Conn. These were bred by Mr. Thrall, who was present, and showed his superior faculty of educating oxen, and the susceptibility of *these* oxen to be educated, by making them perform all sorts of maneuvres, both in and out of the yoke, surrounded by a crowd of men. These cattle seemed capable of any degree of discipline; they appeared to understand every word of their driver, and were as prompt in obedience as a company of well trained soldiers.

PLOWING-MATCH. There was much less competition in this department than we expected, and the manner in which those engaged in it performed their work, was, with a few exceptions, any thing but what it should have been. There were only nine teams engaged. The great fault in the work, arose from a desire to do too much in a given time—the teams were not well disciplined, were too much hurried, and the furrows were crooked and turned too wide,—were too much broken, and left with too much grass in sight. The objections we have here enumerated would not, many of them, apply to the team entered by Wm. Worrell. The plow used by this team was made by H. Delano, of Onondaga county—the name of the plowman was James East. A yoke of brindle cattle, the lightest on the ground, was used, but they showed themselves perfectly adapted to their business. They wasted none of their strength in crowding each other or pulling apart, but threw their whole force directly and straight-forward into the yoke. The consequence was, they did their work easily to themsevles, and in a proper manner, without whipping or noise—they were no more worried than if they had been in their pasture. Other cattle of much larger size, and with more strength, (if they had known how to use it,) went puffing and blowing along with their tongues hanging out, before the work was half done. We have only been thus particular, to show the necessity of having the team, the plowman and the plow, adapted to each other, and all fitted to their work. We noticed one or two other teams which worked pretty well, and which had evidently good plowmen. Such was the case with the team of P. F. Proseus, Kinderhook, and Mr. Hallock. These were horse-teams. We have no doubt there will be an improvement in this department of the State Show in future years.

SHEEP. The show of sheep was good—in all the classes there was a spirited competition. Among *Long-wooled* breeds, we noticed fine bucks belonging to Mr. Dunn, Albany, L. D. Clift, Carmel, Putnam Co., E. Hallock, Milton, Dutchess county. A lot of fat wethers, (Cotswolds,) by J. C. Haviland—very good. Of ewes, we noticed five Bakewells or Leicesters, from Henry Mesier, Fishkill, showing very fine breeding, great beauty of head and eye, with carcasses of the most perfect symmetry, and very light bone and offal. Mr. Clift's ewes were also good, as were the ewes and lambs of Mr. Hallock.

South-Downs. Fine bucks from the flock of J. McD. McIntyre, Albany, D. B. Haight, Washington, Dutchess county, S. and J. Wait, Orange county. A most remarkable fat ewe from Mr. McIntyre, a perfect beauty, as well as several other good ewes from the same flock, and some very fine ones from the Messrs, Wait.

Saxons and Merinoes. Of these there was a large and generally good delegation. Of Saxons, there were good bucks and ewes from Chas. Hull, New Lebanon, Columbia county, W. Wakeman, North-East, A. Brown, and S. B. Crocker.

Of Merinoes, there were very good yearlings and lambs offered by H. S. Randall, Cortlandville, from the flock of S. W. Jewett, of Vermont, and Mr. Carpenter of Poughkeepsie.

There were some excellent Merino sheep from other states—particularly those from Jacob N. Blakeslee and Stephen Atwood, of Litchfield county, Connecticut. These were represented as purely of the Spanish blood imported by Col. Humphrey in 1802. They were splendid sheep, both as regards fleece and symmetry of carcass. Several bucks which were exhibited, have been sold, as we learn, to Mr. L. A. Morrell, of Tompkins county. We shall probably give some further particulars in regard to these sheep hereafter.

Messrs. Jewett, Sandford and Wright, of Vermont, also sent specimens of sheep from their well known flocks. They are generally strong constitutioned, with remarkably heavy fleeces in proportion to their size—the wool in general of medium fineness.

SWINE. Thos. F. Doughty, of Poughkeepsie, sent to the show one hog, 15 months old, weighing 610 pounds, and 6 pigs, five months old, whose aggregate weight was 900 pounds. Thos. Swift, Dutchess county, 6 fine pigs—white, though as he stated, with a *little* Berkshire blood—very good. Fourteen thrifty Berkshire pigs, D. B. Lent, Poughkeepsie. A pair of cross-bred Neapolitan and Chinese pigs, from C. N. Bement, Albany—very fine form and small boned—well calculated to give the nicest quality of meat. An enormous Berkshire boar, "Maximus," by "Reading," out of "Maxima," Benjamin H. Hart, Lagrange, Dutchess county. Also "Major," by the same owner. A mixed Berkshire and grass breed pig, W. A. S. North. Leicester boar, owned by John Wilkinson, Unionvale—a very good hog

POULTRY. Four splendid Chinese Geese, and some Poland fowls, were offered by H. Mesier, Dutchess Co. Some very fine Poland fowls by D. B. Fuller, of Hyde Park. These were comfortably *at home* in a cage at one end of the beautiful car before noticed, and showed their cheerfulness and contentment by frequently crowing. There was also Malay fowls, and some called the "Edam" breed, shown.

IMPLEMENTS. At the trial of plows which took place on Tuesday, there were some eight or ten different kinds. Mr. T. D. Burrall, of Geneva, had on the ground his shell-wheel plow, and one on the same pattern without the land side wheel. Mr. Chase, of Amsterdam, presented several plows of his make, which seemed to be made on very correct principles, and will no doubt do excellent work without great power to use them. H. Delano showed a very good plow. There were several others which we did not see tried. Mr. Bergen, and Messrs. Codding & Co., Rochester. Several from Isaac Tice, Poughkeepsie.

STRAW-CUTTERS. There were several of these machines, some of which we thought very good. Hovey's is well liked. Thos. P. Thorne, Fishkill, presented a straw and corn-stalk cutter. which worked well, especially for stalks. Price $25. Another very simple and excellent one was shown by J. C. Conklin, Peekskill. It is very simple and works well—price $18. Both these last named machines may be readily made to cut any desired length from a quarter of an inch to two inches. There were also cutters from George Smithson, Poughkeepsie, and A. A. Hall, Croton.

VEGETABLE CUTTERS from Adriance and Collar, Poughkeepsie. Smut Machines, Wm. Delaney, Canterbury, Orange county.

Fanning Mills, by I. T. Grant & Co. Schaghticoke, and D. Bryan, North East. *Hay and manure forks*—very superior, by Taylor, Buttolph & Co., West-Stockholm, St. Lawrence Co. *Horse powers*—Warren's—Wheeler & Brothers, Chatham, N. Y.—Arnold & Frost's—Allen's &c., seemed to work well. *A dog power*, for churning, &c., by Brewster & Drake, Hyde Park. A superior cart by John Wilkinson, Union Vale. A clover gathering machine, by B. H. Hart, Lagrange, and a clover cleaning machine, by the same. A model of *cow stables*, by Peter Van Vliet, Newburgh. The stalls are separate; the cow goes in, and a small door is then shut, which closes the stall. A superior smut machine, by W. G. Borland, Little Falls.

A very superior harrow, by George Geddes of Onondaga county; also one very similar, by John Wilkinson, Union Vale.

Gang Plows, for seeding—three shares in one frame; very neat, and from their appearance, might be supposed to work well, by Thos. Wiard, East-Avon. Several *plow cultivators*, B. Langdon & Co., Troy.

An improved revolving horse-rake. G. White, Middlefield, Otsego county. A horse-rake with iron teeth, made, we think, (we have lost the card,) by Wm. B. Stoddard, Cayuga county—said to work exceedingly well.

A model stump-machine. R. H. Hall, Owego. This is a very superior invention. We shall give a cut and description of it in a future number.

A model *clod-crushing roller*, by T. D. Burrall, Geneva. This will prove a very useful implement.

Andrew Menely, West Troy, sent specimens of church bells. They attracted much attention. One of them had a very superior tone, and was particularly admired. Mr. M.'s bells are generally esteemed.

Excellent carriages were presented by John Wood, Poughkeepsie.

There were various cooking and other stoves. Those of Smith, Lockwood & Co., Troy, attracted much attention.

We deem it a matter of regret that there was no subsoil plow exhibited. We think the utility of these plows well proved in this country, as well as in England. The State Fair would have been a most favorable opportunity for demonstrating the advantages of this implement to farmers who are unacquainted with it.

Among the many distinguished strangers who honored the society by their presence on this occasion, were the Hon. Adam Ferguson, and Mr. McDonald, of Canada; Dr. Smith and Col. Allston, of South Carolina; J. S. Skinner, esq., Assistant Post-master General, and the originator and former editor of the American Farmer, the first agricultural paper published in the Union; Mr. Gowan, of Philadelphia; Mr. Hambleton, of Maryland, Mr. Hall, of Virginia; Dr. Poole and Mr. Newbould, of New-Jersey; Mr. Terrill, of Georgia; Messrs. Whitney, Collins, Hurlburt and many others from Connecticut; Messrs. Jewett, Sandford, Wright, and others of Vermont.

On the afternoon of the second day of the exhibition, the officers and members of the society, with the thousands, both male and female, in attendance, assembled under the great tent to hear the annual address from George Bancroft, of Massachusetts. This address was such as might have been expected from this great American historian and writer. It was at once dignified, chaste, energetic and sublime. The chief object of the speaker, was not to enter into the details of practical agriculture, but to exhibit the dignity and importacne of this great art, in whose pursuits some of the most eminent statesmen of our country had exerted their powerful minds, and whose labors and influence in its advancement were eloquently described. After the address, the reports of the various awarding committees were read from the stand. A correct list of the premiums awarded will be found in this paper, page 325.

The admirable regulations, the excellent police arrangements, and the uniform good order which prevailed throughout the fair, from beginning to end, among the great mass of human beings on the grounds, confer the highest credit on the committee of arrangements, and citizens of Poughkeepsie generally, who have given an an example which should be held up for imitation wherever the future shows may be held. Indeed, the spirit, energy, liberality, and hospitality of the citizens of Poughkeepsie, so conspicuously exhibited at this Fair, will be long remembered by the tens of thousands of visitors, and by none more gratefully than by ourselves.

SUPPLEMENTARY NOTICES.

☞ The receipts at the State Fair amounted to about $3,650, from which very few expenses had to be paid; the citizens of Poughkeepsie and its vicinity, having raised by subscription, a sum sufficient to defray all the expenses incurred in fitting up the grounds, erecting buildings, &c., amounting to about $1,600. What other place will do the same next year?

The Committee on Discretionary Premiums say: Specimens of very superior fine wool in the fleece were presented by Dr. Beekman of Kinderhook, and Stephen B. Trowbridge, of Poughkeepsie. Alexander Walsh, Esq. of Lansingburgh, exhibited specimens of American Madder and Filberts. J. & E. Backus of No. 31, Bowery, New-York, a patent Steam Boiler, which the committee deemed a very useful article: not entered for Premium. J. Gurney, of New-York, beautiful specimens of Daguerreotypes. C. Chaffer, New-York, a mineral preparation for mending broken china, which appeared to be a valuable article. W. A. Folger, Poughkeepsie, two window shades—Thomas Reid, Po'keepsie, a superior sun dial.

Isaac W. Wood, Po'keepsie, exhibited two very large fowls—Mr. Verplanck, Fishkill Landing, a Malay fowl, very large and fine—Henry Mesier, four geese of China breed, and pairs of Poland and Bucks county fowls—these Geese are remarkable for layers and fine quality for the table; the mother of the geese shown, has laid nearly all winter, and has now the second brood of goslings raised this summer.

Several pictures were exhibited, painted by the pupils of Mr. Bartlett's Collegiate School, which were very creditable both to the pupils and their tutors. All were so well executed, that the committee will not venture to discriminate.

The great variety and excellence of the fruits and vegetables exhibited by Maurice Cunningham, gardener to R. L. Pell, Esq., cannot be too highly commended by the committee. None but those who witnessed the exhibition, can properly estimate it.

The Committee on Flowers say—A Harp and Cornucopia, designed by the Ladies of the Mansion Square Female Seminary, was one of the most interesting ornaments of Floral Hall. In addition several most beautiful specimens of Needlework were exhibited by the ladies of this Seminary.

A Hoop Garland by Miss Booram of Hyde Park—a standard of Cyprus vines and Dahlias, by Robert Kelly, Rhinebeck, and Wm. Horrack, Hyde Park, and very tastefully arranged boquets, by Mrs. T. L. Davies of Pokeepsie, and Mr. Langdon of Hyde Park, attracted much attention.

The following resolutions were adopted with a most hearty good will:

On motion of John A. King, of Queens, Resolved, That the thanks of this society be tendered to Mr. Bancroft, for his address, and that a committee be appointed to solicit a copy for publication.

On motion of Mr. Johnson, Resolved, That the thanks of the Society be most cordially tendered to Alexander Walsh, of Lansingburgh, for his unwearied efforts in preparing the Floral Hall with unexampled taste and ingenuity, and which contributed more than any other portion of the exhibition to the gratification of the thousands of ladies who were present at the fair.

On motion of B. P. Johnson, of Oneida, Resolved, That the thanks of the Society be presented to Mr. Joel Woodworth, of Watertown, Jefferson Co., for a splendid specimen of maple sugar exhibited by him and presented to the Society.

On motion of Henry O'Reilly, of Albany, Resolved, That the hearty thanks of the New-York State Agricultural Society are eminently due, and are hereby gratefully tendered, to the citizens of Poughkeepsie, including particularly their efficient Committee of Arrangements, for their liberality and hospitality, (unexampled on any previous occasion,) for receiving the thousands of friends of Agriculture, from other states as well as this, who were in attendance at the recent Anniversary Fair and Cattle Show of the State of New-York.

And be it further Resolved, That in evidence of our grateful appreciation of the efforts made by the committee and citizens of Poughkeepsie on this occasion, during all the transactions between them and the State Society during the months that have elapsed since their arrangements for the annual fair and cattle show were commenced, that a marquee be erected devoted to their special accommodation at the next Annual Fair, in whatever part of the State that fair may be held.

On motion of Thos. Hillhouse, of Watervliet, Resolved further, That the Corresponding Secretary be directed to enclose copies of these proceedings to the Committee of Arrangements on the part of the citizens of Poughkeepsie.

We tender our thanks to the Secretaries of the Society, B. P. JOHNSON, Esq. and H. O'REILLY, Esq. for the facilities they have rendered us in making out our account of the Fair, to whom also the thanks of the Society and the public are due, for their indefatigable and well directed labors in making and carrying out the arrangements for the Fair.

ORCHARDS.—DANIEL LELAND, one of the most experienced and successful orchardists in Massachusetts, recommends (through the Boston Cultivator,) pruning in May. His reasons are, that at this time the sap begins to flow—the wounds are not dried by the wind, and the healing process soon commences, whereas if the pruning is done in March, the wound dries down a quarter of an inch or more, and it is a long time in healing. Mr. Leland is not in favor of pruning much at a later period in the season than May, though he thinks trees should be looked to in June, and any suckers that have started should be taken off. June is also a good time to take off dead limbs. Care should be taken to cut the limbs close to the body—a wound thus made six inches in diameter, will heal over in far less time than one of half the diameter that is cut two inches from the body.

THE LATE DR. SAMUEL L. MITCHILL

Of the city of New-York, and his labors in aid of Agriculture.—No. 4.

We concluded our third number with the title and some remarks on Dr. Mitchill's letter to the Rev. H. Muhlenberg, on "Septon," or azote and its compounds. This letter on Septon we may consider as a valuable essay on manures. After some introductory remarks on gypsum, and stating the fact that it was then (1796) "said to be found plentifully in Onondaga county," the author proceeds to remark,

"In my letter to Chancellor Livingston, of February 20th, 1796, an attempt was made to show that plants had the power of destroying pestilential fluids, and of rendering the atmosphere, which had been contaminated by them, healthy. It was stated that Septon (azote,) was taken up as a nutrient material, and retained in the vegetable economy; while the oxygen was discharged, and in company with caloric and light, renewed the respirable portion of the atmosphere. I shall now prosecute the inquiry a little further, and go into some practical details relative to this sort of manure."—(Trans. p. 246.)

"What I have to remark will be comprised under three heads: 1. That animal manures contain Septon, (azote.) 2. That plants nourished by such manures, contain it also; and 3. That hence may be derived a principle elucidating the use and operation of such manures."

"1. The whole history of decaying animal substances tends to prove the abundance of septic, (azotic, nitric,) ingredients they afford. The urine and excrements of neat cattle and sheep, the soakings of dung-hills, the earth of horse stables and cow houses, the soil of graves, and generally speaking, animal relics, and putrefying carcases of all kinds, afford every one of them, Septic (nitric) acid. This acid is composed of Septon, (azote) and oxygen. Water aids the formation of this acid, by promoting intestine motion among the decaying materials, and by its own decomposition furnishing any quantity of the principle of acidity which may be wanted. And when formed, water acts as a vehicle to convey and apply it to the various substances it meets with."—(p. 247.)

In this extract, Mr. Editor, we have the principles contained in what are considered, discoveries of the late Chemico-agricultural writers. According to their doctrines, as I understand them, a compost of manure, street dirt, or other mass of animal and vegetable substances, when undergoing fermentation and putrefaction, evolves numerous gases. The principal of these are carbonic acid gas and ammonia. Carbonic acid gas may be formed by the carbon of the dung heap uniting with the oxygen of the air, or the oxygen of water. Ammonia may be formed by the union of hydrogen and nitrogen (or azote, Dr. Mitchill's Septon.) In a compost heap, the hydrogen is produced by the heat of fermentation decomposing water, and the nitrogen or azote, either from the atmosphere or from the decomposition of azotized substances in the manure heap. Other gases may also be evolved, as by the union of carbon and hydrogen, we may have carburetted hydrogen, or if sulphur be present, sulphuretted hydrogen, &c.

These are all compatible with the theory of Dr. Mitchill, or the *doctrine of Septon*, as he was pleased to call it, in which it was his principal aim to show that fermentation progressing into the putrefactive state, produced nitrogen in abundance, or azote, which he termed Septon or Septic gas, and which acted injuriously on the human constitution, and favorably on vegetation. Alkaline substances arrested this and other deleterious gases, neutralized and rendered them harmless to animal life, while they did not impair their action as fertilizers. But I am anticipating too much; let the author of the "Doctrine of Septon," speak for himself.

"Septic substances, the offal of slaughtered animals, the refuse of house keeping, are when mingled in due quantity with the soil, justly ranked among the best fertilizers. The impregnation of land around houses and barns long occupied with such materials, is the acknowledged cause of its superior productiveness."—(p. 248.)

But it nevertheless sometimes happens, that in cellars, and around country dwellings, in pig-styes and cow-pens near the house, there are accumulated great quantities of excrementitious and corrupting substances, which if seasonably carted away, tend eminently to fertilize the fields, and promote the growth of vegetables, while at the same time by remaining, they render the house foul and unhealthy by the extrication of *septic vapors*. Neatness and elegance are thus found to be as conducive to good health as to good husbandry."

"When I see a farmer permit such unwholesome substances to collect around his habitation, I cannot help reflecting on the danger which awaits him. The manure which ought to have been carried away and spread over his lots, serves, as it lays, but to make his family sickly, to disable his laborers, and lead him to the dubious and expensive routine of physic."—(p. 249.)

"The street manure of cities consists of pretty much the same materials with the yard manure collected about farm-houses. Both are unhealthy, for a similar reason."

"If further proof was wanting of the real nature of these manures, it would be easy to state, that besides the affinity of septic compounds with water, they have a strong attraction for other bodies. With potash and soda, of which large quantities are daily poured into the streets with the soap-suds employed in washing, and from other sources, the septic acid forms the septite of potash, (common salt-petre,) and septite of soda, (cubic nitre.) With lime, which from measuring, carting and building, is sprinkled plentifully along the streets, as well as in the mortar of walls and the ceilings of rooms, it forms the septite of lime, (calcareous nitre,) and with clay it forms the septite of argil, (nitrate of alumine.")

"2. There will be no great difficulty in showing that Septon (azote,) is one of the component materials in certain vegetables. If it can be made evident what plants especially abound with it, we shall be furnished with a clue, leading us to the true use of the manures containing it. From an analysis of plants, we have become acquainted with several of their component parts, and thence are enabled to form some judgment concerning the qualities of the manure best adapted to such and such particular kinds. There is good reason to believe, that particular manures ought to contain ingredients of the same nature and quality with those which the plants so manured, are found by analysis to consist of. By proceeding in this manner, there can be rarely a mistake made in the application of manure. It is observable in the order of creation, that certain vegetable bodies approach more than others towards animal nature. The presence of Septon (azote) is the circumstance in the composition of organized beings, which particularly denotes animality or the approximation to it. Septic manures, being of animal derivation, ought therefore, if they entered into the constitution of plants, to make such as are nourished by them, take on somewhat of an animal nature. Let us now examine how this principle accords with facts. A familiar example may be taken from *wheat*. Wheat is most benefited by manures that contain Septon. *Street manure, door dirt*, and *well mixed barnyard composts*, all of which abound with Septon, are among the best manures for that vegetable. And the efficacy of wood ashes in making ground capable of producing great crops of that grain, is probably owing, if modern conjecture be true, to the Septon (azote) composing a part of the alkali it contains. Some of the *swamp manures* will also produce good harvests of wheat; but others of them, though they cause a sufficient growth of straw, fail to fill the seed in the ear. The reason appears to be this: when swamp manures happen to be charged with the septic matters derived from animals, or from vegetable substances that approach toward animal nature, they will produce plentiful crops of wheat; but when they consist merely of decayed plants, they are incapable of elaborating the grain in the head. The cause of this can easily be investigated by attending to the analysis of wheat. Mr. Parmentier assures us of the presence of Septon in the *mucous* part of the meal; and he affirms, that the *glutinous* portion affords products quite similar to animal substances. If then the land upon which wheat grows, contains a scanty quantity of Septon, the seed will be poor and light in proportion to the deficiency of that article of food in the soil. Yet in this very ground, the roots of turneps and radishes may thrive exceedingly; and so may other plants that do not employ Septon as an article of their diet."—(Trans. p. 252.)

Under the third head the author of the "Doctrine of Septon" further remarks,

"3. There now occurs an obvious explanation of one of the operations of lime as a manure, when mingled with dung and soil. The common opinion has been, that it promoted the putrefactive process of animal and vegetable matters, and thus made them more fit for absorption and nutrition. This may be the case, but there is yet another effect which has not been generally attended to. Calcareous earth combines with the septic acid into a septite of lime, (calcareous nitre) and thus becomes a very valuable manure; and at the same time, by its attractive power, it prevents the evaporation of that fluid in the form of pestilential steam. I believe likewise, it has a further use in retaining the septic substances longer on the land, and thereby lengthening out their fertilizing effect. Old walls and rubbish, abounding with septite of lime, frequently answer valuable purposes as manures. Lime in its simple state, destroys vegetation. Before it is fit to promote the growth of plants, it must be combined with some neutralizer. Its combination with carbonic acid, is the most frequent; but in dunghills and heaps of manure, a more common compound is formed with the septic (nitric) acid. By this connection, both the lime and the acid are deprived of their causticity, and preserved upon the land, a sufficient duration of time, to undergo that gradual decomposition, by the vegetable economy and other causes, which favors the production and growth of plants."—(Trans. p. 255.)

If my previous remarks, Mr. Editor, on the early agricultural essays of one of our countrymen, who was an excellent and learned chemist, and for a while a practical farmer, are agreeable to you and your readers, I may continue them, and quote from other essays of his, all showing what has been stated by your late associate, that some of the members of the old agricultural Society were "*before their age.*" RICHMOND.

SORRELL AND SOUR SOILS—*Errors Excepted.*

I was much amused a few days ago by an article in the American Farmer, credited to the American Agriculturist, by Wm. Partridge, criticising the scientific errors of Dr. Dana and Noyes Darling. Among these corrections, he says, "It is still more strange that Mr. Dana should prescribe lime as a cure for the growth of sorrel, when it exists in this place as an oxalate of lime, and could not grow in any soil unless lime was present." How ready we all are, and how able, too, to discover errors in *others*, and at the same time heed not our own. Now I have always been taught that oxalic acid exists in sorrel and oxalis only in combination with *potash*, in the form of oxalate of potash. I have also been taught, that by a careful evaporation of the juice of wood sorrel, (*Oxalis acetocella,*) or of common sorrel, (*Rumex acetosa,*) we obtain the binoxalate of potassa in chrystals. Hence it would seem, that potash, not lime, is necessary in a soil to produce either of the sorrels. Is it not a fair presumption that the poverty of the soil and not the absence of lime *permits* the growth of sorrel? If the ground be well limed and manured, and then seeded with wheat or other grain, would not the growth of the crop prevent the growth of the sorrel? I have no belief in the actual existence of *sour* soils; that is, soils with such a predominence of acid of any kind as to induce the growth of one plant and prevent that of others. We all know that sorrel and oxalises will grow in common garden soil most thriftily, even in the midst of all other kinds of plants, as can be at any time observed in the public gardens, where may be seen thousands of species of plants, native and exotic, all growing together in the most luxuriant manner. The fact appears to be, that the plants take from the soil, water and air, such matters as suit them, analyse and take from them the various elementary principles that constitute when combined, the various constituents of the plants themselves. That a plant takes an acid ready formed, from the soil, I do not believe; but that it takes the elementary principles that constitute an acid, thence, and from water and air, I can readily conceive. For example, I often cultivate the *Cicer arietinum,* or Chick Pea, in my garden, for the pea is one of the most delicious vegetables I ever ate, amid all other kinds of vegetables. And yet the chick pea is the only vegetable known to possess oxalic acid in a perfectly free uncombined state. And yet on this same soil, I never saw a single plant of common sorrel, though the wood sorrel grows in it spontaneously and luxuriantly. This soil is heavily charged with lime. What is still more strange, if the doctrine of sour soils be correct, wormwood grows in the same soil with equal luxuriance; and we all know that wormwood will not grow in a soil where there is not abundance of potash. Can an acid and an alkali, especially those of oxalic and potash, intimately exist in the same soil, the one giving the character of a sour and the other that of an alkaline soil? True, it may be said that wormwood will take the potash, and sorrel the oxalic acid, each to themselves, and thus each thrive. But it surely cannot be called a sour soil. There is abundance of the *elements* of oxalic acid (*carbon* and *oxygen*) in the soil and air of all places, and it is just as likely, and rather more so, that the plants manufacture it (the acid,) for themselves, it being their nature to do so, than it is that they take it ready prepared from the soil. Now I shall feel obliged to Mr. Partridge for any correction he may think proper to make of the facts and reasonings put forth in this article. ACETOCELLA.

REFINING SALT FOR BUTTER, CURING MEAT, &c.

Would it not be an improvement in the domestic economy of farmers if they were all to adopt some simple method of purifying the salt they use in curing butter, meat, &c. I have often thought that the bad quality of butter is attributable almost as much to impurities in the salt as to any other cause. Let any one consult a practical chemist, or a good chemical book, and he will be informed that the *purest* salt of commerce contains small quantities of sulphate of magnesia and lime, nitrate of soda and muriate of magnesia. Rock and bay salt are the purest, but even these contain the above named impurities. The more common salt, that generally used in domestic economy, not only contains these but other impurities in considerable quantities; all which are well calculated to impair the effects of the salt for the purposes intended. A very little trouble and less expense will enable any farmer's wife to render the salt she uses perfectly pure. In the first place put a peck of salt into a large kettle with just clear rain water enough to dissolve it; boil it and skim off every particle of scum that rises to the surface. Then dissolve one ounce of carbonate of soda in four ounces of water, put it in the kettle and stir it well; then boil again for ten minutes, taking off all the scum that rises; then strain the brine through several folds of flannel. A considerable quantity of earthy matter will be found in the bottom of the kettle, and that is the cause of the impurity. After this straining, a small quantity of muriatic acid must be added to the brine to neutralize the soda; say half an ounce or so; then the brine is to be put back into the kettle and boiled again till it chrystalizes, or it may be put into a shallow wooden vessel and the water evaporated in the sun. Boiling is the quickest method. As soon as the salt is re-chrystalized, it should be washed by putting it in a clean basket, and throwing a bucket of perfectly pure water over it and letting it drain off rapidly; then dry it. In this way, salt perfectly pure may be obtained. I am aware that many people will say that the process is too troublesome; but let me suggest, that every kind of process for all kinds of objects, is troublesome, and that it is only because this is new or never before practiced by them, that it appears troublesome. It is true that it is more troublesome than it is to take the common salt as it is and use it; but then we propose a valuable object to be obtained by the process of purification, that is not attainable from the use of common salt. If it is troublesome, it pays well for itself in the increased excellence of the butter, &c., in which it is used. A high degree of purity may be attained by the above process, even if the carbonate of soda and muriatic acid be omitted, though not absolute purity; common salt will be rendered by it much purer than the best rock salt without the carbonate of soda and the acid. D

CHEMISTRY IN COMMON SCHOOLS.

Why not introduce the study of chemistry in all our common schools, at least the rudiments of chemistry, and especially the meaning of chemical terms ? Why should not a boy, a farmer's boy, be taught the meaning of oxygen and hydrogen, as well as that of the word water ? When he is now told by the papers or books he reads, that *water*, (the meaning of which term he understands very well,) is a fluid composed of certain proportions each of oxygen and hydrogen, (terms he knows nothing about,) he is at a loss. His education has left him with the idea that water is a simple element, as the ancients thought it was; and he also complains of the use of these hard words, when the fact is they are no harder than any other words to learn or to speak; but they are *new* to him, and thence he thinks them hard. All farmers should understand the rudiments of chemistry at least, and as much more as they can command; no one can be a good farmer without this knowledge, except by accident. It is in vain for writers on the subject, to try to use language that can be understood by those who have not learned the meaning of chemical terms. The word oxygen, for example, has no *common term* that would be understood more readily by such people, neither has hydrogen, nitrogen, carbon, &c. See what a list Webster makes in defining these terms. "*Oxygen*—in chemistry, oxygen or oxygen gas, is an *element* or substance so named from its property of generating acids; it is the respirable part of air, vital air, or the basis of it; it is called the acidifying principle, and the principle or support of combustion." "*Hydrogen*—in chemistry, a gas which constitutes one of the elements of water." "*Nitrogen*—the element of nitre; that which produces nitre; that element or component part of air which is called azote." "*Carbon*—pure charcoal; a simple body, black, brittle, light and inodorous." Now, what information will one who does not understand the rudiments of chemistry, derive from these definitions ? None whatever. But if chemistry made a part of common education, all these terms would convey a meaning to the reader of them as readily as do those of water, atmospheric air, and charcoal. It is not supposed that the science at large could be taught in common schools; for if it could, there would be no necessity for high schools. All that is intended by these remarks, is to recommend that the meaning of all *chemical terms* should be there taught. For example, the school teacher should teach the scholars the meaning of the word water thus: *Water*, a compound fluid, the elements of which are by weight, eight parts oxygen, and one part hydrogen; by measure, one part oxygen and two parts hydrogen. Oxygen and hydrogen are gases; they are both colorless, having neither taste nor smell. Oxygen gas is heavier than atmospheric air, and it forms a portion of the air itself. It is essential to animal life and combustion. Hydrogen gas is the lightest of all gases, and hence is used in filling balloons; being about sixteen times lighter than oxygen. Now if such instruction was given in schools, there would be no complaint of the use by writers of hard names, hard words, &c.; and farmers would know just as well what was meant by the words calcareous earth, gypseous earth, &c., as they now do of the meaning of marl, plaster of Paris, &c. I can see no more reason in restricting the education of boys to the common place words of our language, in our common schools, than I do in confining them in their farming operations to the old common place routine of practice. Their education should be such as to fit them for the profession they are to follow, let that be what it may. Chemistry and botany are as essential elements of an agricultural education, as any others whatever. But how few are there amongst us who know even the meaning of the most common terms of either science? S.

Every farmer should supply his table with fresh meat from his poultry-yard, instead of the butcher's shambles. A butcher's bill presented once or twice a year, to be paid in cash, is a very annoying affair. With proper care it may be avoided as above. Some farmers dispose of their calves and lambs to the neighboring butcher, and thus square off his bill; but this is not a good plan.—*Farmer's Cabinet.*

STUDY ON THE FARM.

Messrs. Editors—More exercises of the mind, in observing and reflecting upon the course of nature and the processes of cultivation, would be of vast benefit to most farmers and to their sons. Some few among them do pass over their grounds and along the roads with their eyes open. They notice the adaptation of different crops to the different soils; they observe the effects of the different processes of cultivation. Such farmers find work for the mind as well as the body; they thus keep themselves bright and contented. The tediousness of hard labor is lessened by the activity of the mind. Nor is the good result confined to themselves alone. Their sons and their laborers catch the same spirit of observation and reflection, and thus they become intelligent and more efficient laborers. The sons are more contented with home and the farm. Where the various crops in the field are made matters of study, they possess an interest and a value distinct from the amount of money they may bring in. They become one's teachers; they give him lessons to be treasured up, and to be used. And it is those only who seek to learn and to profit by these lessons, which are furnished by the growing corn and fruits of various kinds, who really are intelligent and exemplary farmers. A few, by dint of unwearied toil from year to year, and by soul pinching parsimony, may get money, and this too, without observing any lessons, excepting a few brief ones, which were inculcated by others while they were young. But those who stick to the old way in every thing through thick and thin, and for no other reason than *because it is the old way*, are not good farmers; they are little more than brute laborers; who by dint of perseverance get some money, but get little else that is worth having. I am not ridiculing old ways, but only say they should be compared with new ones, before one can with any propriety maintain that they *certainly* must be the best. That the old are, in very many cases, the best, is undoubtedly true—that new ways are sometimes better than old, is also as undoubtedly true. And it is only by comparison that we can satisfy ourselves fairly and properly, which path will lead us most directly to the desired object. The matters upon which farmers, and good farmers, differ, are so numerous that no one can expect to settle them all for himself in one year, or even in one life. This to me is a matter of rejoicing, for every farmer may be assured that he can never exhaust his opportunities for learning something new. The pleasure of acquiring knowledge—and this is one of our highest pleasures—is always to be possible with the tiller of the soil. Books and papers upon agriculture are valuable; they give many correct general principles, and many useful hints, but they were not written with especial reference to the soil and subsoil of *your own farm;* and their teachings need modifications which your own experience and observations must point out. Thus, some of my brethren object to what they call "book learning;" therefore take no agricultural publication. But if we will use our experience and common sense in connexion with books and papers, we shall find them *valuable* aids.

I come to the point from which I ought to have started—that the *farm, your own farm,* is a place for study and observation, and that in order to learn with correctness and satisfaction, keep something like a regular journal in which your "book learning," and observations, should be noted down; then you can bring them to bear upon your future practice. Doubleyou.

Shoreham, Vt., July 26, 1844.

Rearing Peach Trees.—Mr. Allen W. Dodge, says in the Mass. Ploughman, that he prefers the following mode of planting peach stones:—"Deposit the stones, after being taken from the peach, in sand or dirt; put them in the ground, slightly covered, in the fall. As for the cotton bag in which to keep them under ground, I have never tried it, or any other covering but the ground itself. Take up the stones early in the spring, crack them, and plant immediately the meats or pits. In a week or ten days they will all be up, without fail, just as certain as so many peas or kernels of corn."

CUT WORM.

Errors in natural history may do much harm, and I conceive the one I am about to notice, is not an exception. James Corwin in the Boston Cultivator, noticing the remark of Mr. Ruffin, in his recent survey of South Carolina, "that cut worms in corn may be destroyed by continued tillage and a naked and open soil," remarks that "the cut worm would not be found in corn were it not planted in sward or sod land; they are the progeny of a species of beetle or other insects, which could never propagate its kind without the aid of dung, which is found in grass fields that have been fed by horses or cattle, and in this they enclose their egg or eggs and sink them a given distance below the surface,"&c. &c. Mr. Corwin has mistaken the grub of the common beetle for that of the cut worm moth. The latter does not lay its eggs in dung, but in the ground. The cut worm is the caterpillar of a *moth* belonging to the lepidoptera and genus *Agrotis*. There are several species, the larvæ of which are injurious to various plants, cabbages, corn, &c. They confine themselves to no particular vegetable, but prefer young corn a few inches high. The *moths* fly only at night, lying concealed during the day under the bark of trees, in the chinks of fences, &c. The only effectual remedy that has yet been discovered, says Harris, in his excellent Treatise on insects injurious to vegetation, "is to go round the field every morning, open the earth at the foot of the plants, and you will not fail to find the worm at the root, within four inches. Kill him, and you will save not only the other plants of your field, but probably many thousands in future years." The reason, probably, why corn on a clover lay is more subject to cut worm than in any other preparation, is that the clover has been affording the insects excellent food and shelter for two years or more, and they have thus increased in numbers greatly beyond what they could have done in cultivated fields. It is believed that Mr. Ruffin is right in his remark, if he includes in his meaning of the words "continued tillage," the necessity of destroying every worm that can be found. But as the moth has wings and uses them freely at night, one farmer may destroy every cut worm in his land this year, and yet have an abundant supply in his fields next year, the parents of which have emigrated from his neighbors who were not so industrious. If every farmer would, however, adopt this means of getting rid of this formidable pest, then Mr. Ruffin's remedy, with the proposed addition, would certainly be effectual. The truth is, that we are all too inattentive to the destruction of insects at the commencement of their career. One minute's work in 1840 would have saved a week's labor of a dozen men in 1844. There is nothing easier than to catch and kill the first two or three insects that appear in a field or garden; but they are generally unheeded, because "two or three insects can do no harm;" they are permitted to lay their eggs. Next year there are several hundred of them, and even if one-half of these are caught and killed, (which will not often happen,) the other half will lay their eggs, and on the third year we shall have 50,000 or more, and then there will be work on hand to kill them. The depredations of the common caterpillar, for instance, can easily and certainly be prevented in this way, as the writer of this knows well from his own experience. In a garden full of shrubbery, every year this caterpillar makes its appearance, as an emigrant from the neighboring gardens; but it is a rule never to allow the first insect to escape. Each and all are destroyed as soon as they make their appearance, and consequently there is no multiplication of them by the 500 for one. C.

PRESERVATION OF MANURE.

An English paper recommends the application of a solution of common salt, (one pound to the gallon of water,) by means of a watering pot, to the floors of horse stables, before clearing the dung out, for the purpose of fixing the ammonia that is evolved from it. By this means, he says all the ammonia evolved will be converted into muriate of ammonia, and a portion of carbonate of soda formed, all which will be a valuable addition to the manure. A much easier, and as cheap a plan, is to spread ground plaster of Paris over the manure. Indeed this should always be done; all stable manure should be well mixed with plaster, that none of its valuable properties be allowed to evaporate. There is no one thing with which farmers generally are so careless as they are with manure. How common it is to see piles of horse dung under the stable windows outside, exposed to the washing of rain and bleaching of the sun for months together. If farmers will not or cannot keep their manures under cover, let them apply plaster of Paris as above, and at least prevent its valuable properties taking wing and flying away. Even then, however, the rain will dissolve much of the salts, and wash them away into the adjacent grounds. Why not take care of manure as well as any thing else? Index.

WHEAT-GROWING IN THE SOUTH.

Among the many intelligent southern planters whom it has been my lot to meet during their northern tour of summer recreation, was William Terrill, Esq. of Hancock Co. Georgia. I mention him particularly, from the satisfaction derived from his remarks on the wheat culture at the south, especially in the region where he resides. Conversing about the grain crops of this State, which he had carefully examined with the eye of an intelligent farmer, and after noticing particularly the laudable endeavors of General Harmon of Wheatland, (Vice President of the N. Y. State Agricultural Society,) in testing the qualities of various kinds of wheat for the purpose of designating the best qualities of *seed wheat*, Mr. Terrill remarked substantially that his own experiments in Georgia satisfied him that the wheat crop in that and other southern States may be made far more extensive and profitable than has generally been supposed. Mr. T. raised last year fifteen acres of a kind known in that region as "*Moore* wheat"—the variety being appropriately named after a worthy post-master in his neighborhood, who had taken the trouble a few years before to obtain specimens of such articles enclosed in letters from friends in other States, with a view of promoting agricultural improvement. The specimen from which this and other crops in his neighborhood were raised, was originally contained *in a letter* from Norfolk, Virginia, five or six years ago. The land was a reddish clay, manured with about twenty-five bushels of cotton seed, worth about six pence a bushel at the gin-house. The crop was sown on the 5th and 6th of October, and harvested on the 10th of May. The yield on a patch of about an acre, was at the rate of twenty-five bushels; and the average of the whole fifteen acres, was eighteen bushels per acre. The grain was plump, and measured in standard measure. The berry is yellowish, making a cream-colored flour that is much approved.

Mr. Terrill remarked, farther, that with his improved mode of cultivation, he has realized more wheat from these fifteen acres than he ever before raised from double that quantity of land—indeed, he has had smaller crops from more than twice the quantity of land.

These simple facts may induce others to "go and do likewise." What can be done by one intelligent planter or farmer, may be done by others.

Let us hear of many such experiments in all quarters of the south. Let the intelligent and reflecting planters, whose minds are well stored with facts bearing on the improvement of agriculture, apply those facts thoroughly in the management of their estates; and our word for it, they will find rich and pleasant harvests for their pockets and their minds, whatever may be the "prospects of cotton" or the "fate of the tariff."

N. B. We must not forget to state that an Agricultural Society was formed two or three years ago in Hancock county, which Society offers liberal premiums for the best crops of wheat, corn, and other kinds of grain, and from the labors of which much good may reasonably be anticipated. The example is worthy of imitation in every county, not of Georgia alone, but throughout the whole south. Nothing rejoices us more than to hear of such enterprising movements among our agricultural brethren in that "sunny clime." Rho.

TREES INJURED BY MICE, &c.

Messrs. Editors—Seeing in your July number, a notice of fruit trees injured by mice, reminded me of a fact which may be worth communicating. A year ago last winter, I had five young apple trees girdled by rabbits, one of them having the whole bark gnawed off for a foot in length, and entirely around the tree. I wound around each tree a thick woolen cloth and tied it fast, thinking it might have some influence in preserving the life of the tree, though I had no expectations that the one injured most could be saved. All except one appeared in blossom last year, but bore no fruit. This year they are all covered with fruit, and appear very thrifty. On removing the cloths for examination a short time since, I found that the bark had grown considerably on each, though not sufficient to join the upper and lower parts. The tree most eaten, has no bark now on its body for the space of six inches, and yet has leaves and fruit. I suppose the cloths have afforded a medium of communication between the upper and lower bark for the sap, so as to preserve the life and promote the growth of the tree. Is not this fact worth remembering?

Squashes.—Having for some years had the most gratifying success in raising the Valparaiso squash, I take the liberty of recommending it to others, as on the whole, the most profitable winter squash with which I am acquainted. It grows very large, weighing frequently from 60 to 100 lbs.; yields abundantly, is delicious food both for man and beast, and will keep perfectly sound for a year, if kept dry and away from frost. In June last, having a wish for some *pumpkin* pies, I used the last of my winter's stock, and found them as sound and fresh as when gathered last fall; and I have no doubt they would have kept perfectly good till October.

Cabbages.—If cabbages are set out near common field turneps or ruta bagas, the peculiarities of each are destroyed. The cabbages grow without heads and the turneps without bottoms. This I have learned by sad and repeated experience.

[Does the writer mean that cabbages and turneps intermix so as to produce the results he speaks of, the first season of their growth, or before blossoms are produced? The effects of intermixture through the blossom, are what they are here represented.—Eds.]

Poultry.—The affairs of the poultry yard have, as usual, had a share of my attention the present season, and I am more and more impressed with the importance of this branch of rural economy. Wishing to raise as many Poland and Dorking chickens this year as I could, I purchased two dozen common hens to do the hatching, and let all of every breed set that would. Out of 21 that have set, there has been but one Poland hen; and this has been about the proportion that I have observed in former years. By selecting a few of the best of each kind to breed from, and keeping each lot by themselves, I think I can observe an improvement every year, both as to size and beauty of form; and if this plan were followed up for a series of years, it would result, I doubt not, in producing a finer stock of fowls than any we have at present in the country.

I have at various times tried experiments in crossing the different breeds of fowls, and the following are some of the results. The most beautiful *white top knots* are produced by a cross between a Poland cock, and a common white hen. The sub-variety known as the *Golden Poland*—having the body of a bright or reddish yellow, with a small black spot on each feather, and a crest of red or mixed colors—is the result of a cross between a Poland hen and a common red cock. Many of the chickens produced by these crosses will be parti-colored and of various plumage, but some will be of the character above described. I have a number of *five toed* or *Dorking top knots*, produced by a cross between a Dorking cock and a white top knot hen. Another variety described in some of the poultry books, viz: the perfectly white body with a black top knot, I have never seen, though I have made various unsuccessful experiments to produce it.

To obtain a cross of any particular description, it is necessary that the cock and hen should run together from 4 to 5 weeks, before the eggs are saved to be hatched; for all the eggs the hen lays in four weeks after being changed to a new cock, will partake of the character of the former cock.

The following treatment has resulted in keeping my fowls in a remarkably healthy state, and causing them to produce an abundance of eggs. Being under the necessity of keeping them shut up through the summer, I have each room supplied with a large box of dirt, sand and ashes, for them to roll in; a box of old lime mortar or plaster; a box of fine gravel from the lake shore, of which 20 fowls will eat a peck in four weeks; a feeding hopper containing always a supply of food, and fresh water supplied twice a day. For food, I prefer wheat when I can get it; and there being generally a supply here to be had for 20 to 25 cents per bushel—such as through various causes becomes wet in vessels and unfit to be ground—I use that through most of the year. Wheat contains so much lime, that it assists materially in the formation of shells, and causes fowls to lay better both winter and summer, than any other food with which I am acquainted.

Guinea hens, though very unprofitable, give variety to the music of the poultry yard, and I have kept them for some years. They make what Shakspeare calls a "musical discord," which is not disagreeable to my ear. They do not begin to lay till about June, and finish in August or September, producing an egg generally every other day. Their flesh when well fatted is most delicious, and I am determined to have mine all served up for the table before another winter. H. A. Parsons.

Buffalo, Aug., 1844.

SEEDLESS APPLES.

Humbuggery and marvel are afloat again, with the story about "apples without seeds and cores," "half sour and half sweet," &c. These stories make a periodical advent about every five years. I well remember when a boy, (but I don't say how many scores of years ago that was,) a man came to our house to bottom chairs; and while he was busy with the split ash, he amused himself and his young listeners with all sorts of stories. Among others, he told us of an apple tree that he knew of "in York State, out west, in the Holland Purchase," that bore apples, one side of which was sweet as a Tallman Sweeting, the other as sour as a Rhode Island Greening; and that he could produce trees like it by a particular kind of grafting. After a good deal of coaxing, he consented to tell *me* all about it. It was simply to take a slip from a Tallman Sweeting tree and graft it, top end downwards, upon a Greening stock;" "and," says he, "*when it bears*, the apples will be half sour and half sweet." I was young *then*, (I did not say I am *old* now!) and therefore I lost no time in trying the experiment; not only did I try it once, but several times. None of the grafts grew, of course they did not bear fruit, and of course it was not "half sweet and half sour." I well remember the curious quizzical look my father gave me when he reminded me, that the chair-bottomer had said, "*when* it bears, the apples will be," &c. Now, I have only to say, in relation to the present story about bending down the top of a young tree and covering it with earth, and "*when* it takes root, cut the tree asunder, and thus stop the connexion with the natural roots of the tree," that WHEN "the young sprouts which spring from the top portion of the tree" "form a regular top," it WILL produce "fine fruit of a beautiful red," "good size," and "very pleasant apple," "without core or seed." It is of course unnecessary for us to ask those who believe such things, *how* the apple can be formed without the core! As well might we expect it to grow without the *stem*. A few years ago a man brought to our horticultural room a branch of a grape vine in a pot, with fruit on it, that he said he had made to grow in a flower pot, by burying the outer top end in the pot a few weeks, and then cut off the branch from the main vine. He wanted to *sell them*. Before the show was over, the vine *withered*, of course! S.

Pay great attention to the seeds you use.

PROFITS OF RAISING FINE FRUIT.

The great deficiency of excellent fruit in most parts of the northern States, is evident to every one who is acquainted with the finer varieties. It is believed if many of our farmers and others who own land, knew the actual profits which might be derived from orchards of the very best kinds, they would no longer hesitate in planting immediately, a large portion of their ground. Calculation on paper, I am aware, is not actual experience; but correct calculation from admitted facts, cannot be far wrong. Let us take a few examples.

Apples for domestic animals.—Suppose one acre of land can be had for $50, which is high for the average of good land in this country; that 40 apple trees, which would place them two rods apart on the acre, may be had for 25 cents each, or $10 for the forty; and that $5 be paid for transplanting them, which would do the work well, placing them in holes six feet in diameter and well filled with mellow rich mold, and staking them well to prevent loosening by the wind. The crops obtained from the ground until they would arrive at a full bearing state would amply pay the interest on the whole cost, and cultivation and manuring. If well taken care of, and the soil kept mellow by hoed crops, they would bear abundantly in one-half the time usually required, and yield an average of at least five bushels to the tree—many would bear fifteen or twenty when the trees become large, if kept cultivated. Fed to hogs, the pork they would produce might be safely estimated at 12½ cents per bushel—a neighbor obtained about 500 lbs. of pork from 120 bushels. The estimate will then stand as follows:

1 acre of land,		$50
40 apple trees,		10
Transplanting,		5
Contingencies,		5
Whole cost of one acre of orchard,		$70
Five bushels per tree, 40 trees, 200 bushels; at 12½ cents,		$25
Deduct interest on $70,	$4.90	
And for gathering,	2.10	
		7
Clear annual profit per acre,		$18

Winter apples for market.—The average price of good winter apples for several years past in most parts of the State, has not been less than 25 cents per bushel; some late keepers are sold early in summer for triple that sum. An acre of trees, if well cultivated, would yield as already shown, not less than 200 bushels; allowing 5 cents per bushel for hand picking, which would be very liberal, if convenient ladders were at hand, and the estimate would stand thus:

200 bushels apples at 25 cents,	$50
Deduct 5 cents per bushel, picking,	10
Clear profit per acre,	$40

This estimate, it will be at once seen, is quite low, instances being frequent where more than double the amount is obtained. But four hundred dollars nett profit, as a yearly average from a ten acre field, is not to be despised.

Early Peaches, if of the very finest of the early kinds, will bring in all our cities and larger villages, generally not less than two dollars per bushel; they have often brought four dollars. In most parts of this State adapted to their culture, the trees continue to bear under good care for many years, and will *average* at least one bushel to the tree. One hundred and fifty trees may stand on an acre; gathering and marketing would cost perhaps from ten to twenty-five cents per bushel; thus an acre would be worth as follows:

Cost of land and 150 trees at 20 cents each,	$80
Transplanting, &c. say,	20
	$100
150 bushels peaches at $2 per bushel,	$300
Deduct for interest, gathering and marketing, 25 cents per bushel,	82
Clear profit per acre,	$218

Apricots, which ripen from one to two months before such early peaches as are profitable for market, and are nearly as fine and delicious, bring still higher prices. An experienced fruit seller gives it as his opinion, that good apricots would bring any year, as fast as they could be sold, not less than $1 a peck, or $4 per bushel. An acre would easily contain 150 trees, and each tree would yield on an average one bushel of fruit, if well attended to. Such attention would consist in keeping the ground cultivated, and guarding against destruction by the curculio. The latter is to be either accomplished by yearly confining a sufficient number of pigs to eat all the fallen fruit, in which case crops would be precluded; or by daily jarring the insects on white sheets and destroying them. The following is an estimate of the expenses and profits:

Cost of land,		$50
150 trees at 37½ cents,		56
Transplanting, &c. say,		20
Cost of one acre,		$126
150 bushels, at $4 per bushel,		$600
Deduct interest on $126,	$8.82	
care from curculio,	10.00	
gathering and marketing,	75.00	
		$94
Clear profit per acre,		$506

A selection of the ***best*** and ***most suitable*** varieties of cherries and plums would give as profitable a crop, probably, as the apricot. These estimates may seem large, but they are much less than I have known on a smaller scale in case of cherries, plums and apricots, and also much less than I have known on a much larger scale in case of apples and peaches.

But every one who undertakes this business must remember that there is no "royal road" to the cultivation of fruit trees. Crowding the roots into a small hole in hard soil, suffering them, unstaked, to whip about by the wind, tearing them with the plow and scratching them with the harrow, and more than all else put together, allowing them to be overrun by grass and weeds, or smothered and stunted by crops of wheat, barley or corn; such treatment does not deserve success.

The best crops for the ground occupied by a young orchard, should be such as require a frequent use of the hoe, plow, or cultivator, and which are in no danger by a tall growth of shading the trees. Such are beans, carrots, potatoes, ruta bagas, beets, onions and pumpkins, but not sown crops.*

A selection of suitable varieties is also of the greatest consequence. Apples for stock should be of those varieties which are great and constant bearers. For market, they should be good bearers, handsome in appearance, of good flavor, and part of them long keepers. Peaches, cherries, &c. should be abundant bearers, of good quality, and as early as is practicable with those requisites.

J. J. T.

Importation of Manures into Great Britain.—It was stated at a late meeting of the Agricultural Chemistry Association, that the following sums were paid for manures imported into England and Scotland, during the last year. For bone-dust, £91,755; rape cake and rape seed, £169,331; guano, (being the amount imported, not for the country at large, but to Liverpool alone, in one year,) £59,240; being a total of upwards of £320,000. It is also stated that there were 300 vessels engaged in the importation of guano.

---

* A neighbor has a fine young orchard of peach trees, one-hal of which is planted with potatoes, and the other half with peas—which are perhaps the most harmless of all sown crops; those standing among the potatoes, have made the present season more than double the growth of those on the pea ground.

REMARKS ON PEAT.

To Prof. James Hall, *late Geologist of the Fourth District of the State of New-York:*

Dear Sir—You were so kind as to answer my inquiries in the June number of the Cultivator, respecting phosphate of lime, that I am induced to reply to your communication in the August number of the same work, (p. 258.) My first was addressed to the geologists generally; but this I offer to you individually, hoping you will not take offence with an anonymous correspondent. You have satisfied me, and must others who read your letter in the Cultivator, that although there are several places in this State where the phosphates are found, yet they are not in sufficient quantity for agricultural purposes.

There is another article however, which yourself and associates in the late geological survey, have shown to exist in vast quantities, in all parts of the State, and easily accessible, forming reservoirs of a material, well adapted to promote fertility in such parts of the country, where cultivation has exhausted the soil, and rendered manures necessary. This article is *peat or muck,* the black sediment of ponds and swamps, and hollows in the woods, where the water is evaporated in summer. This material has been gradually coming into use, but of late it is attracting much attention by the husbandmen of Staten Island, as I intend to show.

In your letter to the Editors of the Cultivator, you remark that I spoke "*in a very complimentary manner of the labors of the geologists.*" It was not intended for flattery, but was the genuine sentiment of approval, of the geological survey, by a farmer who is not alone in appreciating what you and your associates have done. The immense resources of the State have been pointed out, and it remains for others to develop them for the benefit of the community.

Peat has been much used in Massachusetts, and its employment has slowly traveled into the adjoining State of Connecticut, where manure is much wanted. The "Muck Manual" of S. L. Dana has been the means of spreading information on the subject, and the reports of the Geologists of the State of New-York, have added to the information, showing clearly that there are mines of wealth for our farmers, lying on or near the surface, unexplored and unused in almost every part of the commonwealth. This is but one of the many benefits arising from the geological survey, and the reports of the scientific men who made the exploration in so short a time and with such credit to themselves and advantage to the State.

This small but productive island, has annually appropriated a large quantity of the street dirt from the city of New-York, as manure, but for several years past, produce of all kinds has been so low, that many are endeavoring to dispense with its use, and save the cash which has to be paid for it. But the farmers of Richmond county cannot raise crops without manure, and a liberal supply of it. Hence they have turned their attention to manufacture it from their own resources. Muck and sea-weed and fish and weeds and soil, composted with barn-yard and stable manure, and mud and sand and lime and potash, with other ingredients, form the basis, and enable the industrious man to furnish aliment to his crops from his own land, which is to produce food for his family, provender for his cattle, and a surplus for sale.

There is scarcely a farm in the county, that has not a pond, a swamp, a hollow or muck hole from which peat may be obtained by ditching and draining. The dry weather in August and September is the season for carting it out. If distant from the barn-yard or compost heap, it may be deposited in the immediate vicinity to be used as occasion requires, the farmer thus having it at his command, when the vernal and autumnal rains would prevent his digging it in its original place of deposit. It varies in its composition and consistency, from its relative situation, but all its varieties are good and capable of being converted into rich manure by proper management. In ponds liable to become dry in warm weather, the vegetable matter, by the alternate action of heat and moisture, is often decomposed and forms at the bottom a black mud, which on drying or exposure to frost, crumbles into a fine mold. When we find a pond in the woods which is dry in summer, the mud contains undecayed roots, leaves and twigs of trees from the annual supply of these materials from the surrounding trees. To reduce them to humus or mold, or in other words to a more perfect state of decomposition, it is necessary that they should undergo fermentation in combination with other vegetable and animal substances. In permanent ponds or such as are seldom or never dry, the muck is a mixture of the earthy wash of the uplands and parts of vegetables, wholly or partially decayed. Wet swamps covered with bog-grass and bushes also contain undecayed roots, leaves and twigs. When such ponds or swamps are drained, the vegetable matter undergoes a gradual change, and forms a deep and rich bed of black muck. In cleared land we sometimes find a repository of such material in low places, that have been drained and under cultivation for years. We would naturally suppose that under such circumstances the vegetable fibres of leaves, roots and stems of trees would be entirely decomposed, but it is not the case, except at a small distance beneath the surface, within the influence of summer heat and winter frost. Such spots of land are like the Genesee flats, or the alluvial soil of other streams, rich and inexhaustible, provided we can reach enough of the subsoil to mix with the surface, as it loses its power by cultivation. Though some such spots are found on this island they are not extensive, and they can only serve to enrich the surrounding fields by digging pits, and raising the muck to make compost.

Dr. Dana says that peat or muck, (I use the words synonymously,) consists of soluble and insoluble humus, the latter predominating. But soluble or insoluble, it may all be converted into a fertilizing ingredient for vegetation. (I don't like Dana's term *Geine,* because it is too technical, too learned, or too difficult to pronounce. Farmers who have been in the habit of reading the Cultivator, know what is meant by humus, and let us stick to that.) I will state some of the methods in which muck has been employed on this island.

Mr. William A. Seely has a large reservoir of muck from a pond or swamp which he has drained, and he has set us the example of the best methods of converting it into a fertilizer. He has a farm of more than two hundred acres, at the mouth of the Great Kills on the south side of the island. He has manured heavily, and made former waste fields productive, by means of peat; and they may now be seen smiling with heavy crops. For seven or eight years past he has purchased no manure, but has made all that his crops required, from the resources of his own farm. From his water front on Raritan bay, he collects large quantities of sea-weed, and in the autumn, after clearing his barn-yards of manure for his fall crops, he begins anew to manufacture this indispensible article, for the coming year, in the following manner.

The yard is first littered with a coat of sea-weed, and over that a layer of peat, then the accumulation of horse dung from the stable is spread over the peat. The contents of the hog pens are also occasionally strown over the yard, which in the course of the fall and winter receives several layers of peat. These, together with the hay, the straw and corn-stalk fodder dropped during the winter, are trodden and poached by the cattle, and mixed with their droppings, making a compound mass containing the elements of all our cultivated crops.

In the spring, when the frost is out of the ground, the coarse manure is accumulated in the yard, and saturated with its liquid contents, is carted out and piled into heaps three to five feet high, where it undergoes fermentation and in the course of four to six weeks, is converted into a finer mass, and fitted for the spring crops.

Mr. Seely has also made what are here called "*fish pies.*" In May and June when moosbonkers (Clupea menhaden) abound, they are caught in great numbers Alternate layers of peat and fish are made into a compost heap, and so left until the ensuing spring. I examined such a heap of his several years ago, after the fish were completely decomposed. The mass was inodorous, the peat having absorbed all the gaseous substances, and had become very fine and crumbly, and almost as light as a heap of ashes. This method of making manure with peat and fish, is infinitely better than the nauseous one of spreading them broadcast when first taken. Mr. Secly used peat in making compost heaps, a number of years before others would follow suit. He even offered to give the farmers some of his peat manure, to try and test its virtues, but the offer was not accepted. Now, however, a change of opinion has taken place, and we are all (or at least a number of us,) trying to manufacture, that we may cease to buy manure.

I employ peat freely, spreading it over the barn-yard, throwing it into the hog pens, and mixing it with lime and potash and soil, and unleached ashes, green weeds, potatoe tops, sea-weed, &c. I have said that sand is an ingredient to manufacture manure. We who are on the sea-shore where sand is plenty, and where our soil is a stiff clay, find that sand alone aids in making it friable. In such soils a small portion in compost heaps is not amiss. Lime, or potash, or ashes, I believe if mixed with fresh dug peat, would absorb its acid, render it soluble and fit for use as a manure in a few weeks.

Mr. Cornelius McLean, a gentleman from New-York, has purchased the farm adjoining Mr. Secly, and is doing great things with muck, having found an abundant supply from a swamp which he has drained. He makes manure accordingly, and his crops show that they feel its effects, while his farm is rising from a state of neglect and exhaustion, to beauty and fertility. Mr. Chas. E. Leveridge, his neighbor, is also exploring his low grounds, ditching and carting muck to the " mixen."

About Princes Bay we find Mr. Joseph H. Seguine and others, digging out the muck from ponds and hollows, and even the mud and peat of the salt meadows to make compost heaps. Mr. Seaman, Mr. Chadwick, Mr. John Seguine, and Dr. Taylor, all in that vicinity, are using more or less of it. The latter gentleman has such an abundance that he neglects sea-weed, which his shore furnishes plentifully. Mr. Frost, Mr. Flood and others on the Fresh Kills, have also dug out muck and are using it. It has even been employed by some on the island, without any preparation or mixture, except exposing it to the winter frosts in small heaps, which cause it to crumble into a fine mold.

Thus we find that muck or peat is gradually coming into use, and the farming interest will be greatly promoted by the recommendation of the State Geologists, who have indicated many vast repositories of it in different places, but the small deposits must first be excavated, and in process of time, the larger ones be resorted to.

Again, I repeat that the Geologists in exploring the State, have shown its immense resources, and the incalculable benefits to be derived to the arts from their labors. If these are not appreciated by party men, by mere politicians, they are, and will be, by all considerate persons, and by those who love our country and its republican institutions. Yours, with esteem,

A Practical Farmer.

Staten Island, Sept. 11, 1844.

TO EXTRACT CHEAT FROM WHEAT.

Messrs. Editors—As much difficulty is frequently experienced in cleaning wheat from cheat, I offer the following plan: Instead of having a riddle, as ordinarily used, in the fan, place a board in the riddle's place; it may be an inch or two narrower than the riddle in width. By this means, the cheat is carried nearly off the screen board, and with the aid of a strong wind, is driven pretty effectually out at the second run of the grain.

The present year I undertook to clean some Mediterranean wheat, which had a pretty large share of cheat in it. By the aid of the above plan, at the second run, it was pronounced by an old and experienced farmer to be clean enough. I believe I might have run it five or six times the ordinary way, without having it as clean. Thus I saved much labor, as well as some time; though it must be let through slowly and regularly, to prevent the falling sheet of wheat from obstructing the passage of the cheat while blowing out, and falling through the fan sieve. This I accomplished by resting the half bushel on my shoulder, and letting the grain fall gently and gradually into the fan hopper, which was aided by the jar of the fan in motion. This last precaution may not be necessary, where hoppers are new and properly constructed; but ours was old, and worn loose at the connecting points.

Chester co., Pa., Aug. 1844. John M. Harlan.

"NEVER LOSE ANY THING—NEVER FORGET ANY THING."

A distinguished financier and citizen of this State, lately related an anecdote which occurred in early life, which he said afterwards proved of the greatest utility to him, and which may teach a valuable lesson to others. When just commencing in life, he was deputed by an eminent man of business on an errand of considerable importance, and after receiving instructions at length, the business man handed him a paper or instrument, which he was to use in case of a certain contingency not likely to occur. "Here," said he to the young man, "take this paper and hand it to ——— if you should see him, but you must not lose it."

"Very well, I will try not to lose it."

"But you *musn't* lose it."

"Well, I'll *try*, but as I may not need the paper, perhaps I had better not take it, for fear I *might* lose it."

"No!—take the paper, but you MUST NOT LOSE IT!"

He took the paper—and set out on his journey—but the idea that a fixed determination to accomplish the object, would certainly accomplish it, was new to him; the last emphatic words, "*you* MUST NOT *lose it*," continually re-echoed in his ears, and made such an indelible impression on his mind, that throughout a long subsequent life, he proved most effectually the practicability and eminent utility of the injunction, as well as of its counterpart and almost its necessary consequence, "never forget any thing,"—that is, in the transaction of active business.

These two maxims, if thoroughly adopted and carried out by all our farmers, would work a revolution indeed in the appearance of many premises. Instead of tools lost in one place, and forgotten, neglected and spoiled from a year's exposure in another, with the consequent loss of time in hunting, and loss of temper by delay and disappointment,—instead of these disasters, there would be "a place for every thing and every thing in its place;" and confusion no longer usurp the throne of order, neatness and regularity. Whenever an implement is taken from its place for use, the words must be vividly impressed on the mind, "you *must not* lose it—you *must not* forget it!"

And who doubts the possibility of attaining this? Some persons forget, *habitually*, and lose, habitually; but if habit has brought these evils upon them, then it may also remove them; or at least it might have prevented them, if an early determination to the contrary had been adopted. Habit "begins in cobwebs and ends in chains,"—let it then have a right direction at the outset. Be *determined* to do a thing, and you need not fear of success,—ultimately, if not now. The most perfect penman I ever knew, had a distorted and crippled hand—and the most accomplished Grecian orator, when young, was humpbacked, lop-shouldered, and had to talk with pebbles in his mouth to correct his mumbling voice. Sir Isaac Newton said that whatever he had attained was by perseverance and close application, and not by any eminent powers of mind which he possessed. Who then need despair?

A Hearer.

Blasting Rock.—Some time since it was stated in some newspaper that the electric battery was applied in igniting the powder in blasting rock, and this was much more safe and expeditious than the old plan. What is the *modus operandi* ? for instance the size of the battery and the wire used for a conductor, &c.

Morus Multicaulis.—It has been stated by some, that the morus multicaulis is not adapted to the successful cultivation of the silk worm; that worms fed on it, are not so healthy as those fed on other varieties of the mulberry. Is it so ? What variety (from experience,) is now considered best ?

Answers to the above inquiries, will confer a favor on one, and no doubt be interesting to many of your subscribers. *Lexington, N. C., Sept.* 2, 1844. C. Mock.

LIST OF PREMIUMS AWARDED

BY THE N. Y. STATE AG. SOCIETY AT POUGHKEEPSIE.

CATTLE—Class I—*Best of any breed.*

Bulls—Best 3 years old, to George Vail, Troy, "Meteor," $20—Best 2 years old, to C. F. Crosby, Watervliet, "Osceola," $15—Best yearling, to Thomas Oliver, Westchester county, "Marius," $10—Best bull calf, to Corning & Sotham, Albany, "Pomaria," $6.

Cows—Best 3 years old, to James Lennox, Poughkeepsie, "Red Lady," $20—Best 2 years old, to E. P. Prentice, Albany. $15—Best yearling, to Duncan Robinson, Fishkill, $10—Best calf, to R. L. Pell, Pelham Farm, $6.

Class II—*Durham Cattle.*

Bulls—1st, to George Vail's "Meteor," $15—2d, to D. D. Campbell's "Rotterdam," Schenectady, $10—3d, to R. Donaldson's "Prince Albert," Red Hook, Diploma.

Two years old—1st, to C. F. Crosby's "Osceola," $10—2d, to George Vail's "Symmetry," $5—3d, to Wm. Salisbury's "Sir Peter," Catskill, Diploma.

Yearlings—1st, to Thomas Oliver, Sing-Sing, $10—2d, to J. F. Sheaf, High Cliff, $5—3d, to James Lennox, Diploma.

Bull Calves—1st, to C. N. Bement, Albany, $5—2d, to George Vail, Diploma.

Cows—1st, to J. F. Sheaf, $15—2d, to George Vail's "Victoria," $10—3d, to J. F. Sheaf, Diploma.

Two year old Heifers—1st, to E. P. Prentice's "Nell," $10—2d, to E. P. Prentice's "Esterville," $5—3d, to D. B. Fuller's "Victoria," Hyde Park, Diploma.

Yearlings—1st, to George Dakin, Dutchess county, $10—2d, to D. D. Campbell, $5—3d, to Wm. Kelly, Rhinebeck, Diploma.

Heifer Calves—1st, to George Vail, $5—2d to C. N. Bement, Diploma.

Class III—*Hereford Cattle.*

All the premiums in this class were awarded to Messrs Corning & Sotham, Albany, to wit: For 2 years old bull, Edwin, $10—for bull calf, Pomaria, $5—for cows, 1st, to Aston Beauty, $15; 2d, to Victoria, $10; 3d, to Perfection, Diploma—for 2 years old heifer, Mary, $10; for yearling heifers, 1st, to Lilly, $6; to Maggie, vol. Transactions.

Class IV—*Devon Cattle.*

To L. F. Allen, Black Rock, for best bull calf, $5.

For best cow, 1st, to D. B. Lent, Poughkeepsie, $15—2d, to L F. Allen, $10.

Class V—*Ayrshire Cattle.*

For best bull, 1st, to Joel Rathbone, Albany, $15—2d, to C. N. Bement, $10.

The Committee also awarded a premium of $15 to Mr. Archibald of Montreal, for his Ayrshire bull, Sir Walter Scott.

For best cow, 1st, to Thomas Ellison, New Windsor, $15—2d, to Joel Rathbone, $10—3d, to Cornelius Dubois, Poughkeepsie, vol. Transactions.

Class VI—*Grade Cattle.*

For best 2 years old heifer, to Duncan Robinson, Fishkill, $5—2d and 3d, to J. F. Sheaf, Poughkeepsie, $3 and Diploma.

Class VII—*Native Cattle.*

For best cow, 1st, to R. Donaldson, $12—2d, to R. L. Pell, $8—3d, to Z. Pratt, Greene county, vol. Transactions. A vol. of Transactions was awarded to Hezekiah Smith, Greene county, for his Native bull; and a premium of $3 to John G. Parker, Poughkeepsie, for his Native calf

WORKING OXEN AND STEERS.

For best pair, 1st, to Luther Comstock, Oneida, $15—2d, to Isaac Doty, Clinton Hollow, $10—3d, to H. D. Grant, Amenia, vol. Transactions—4th, to F. W. Akin, Greenbush, Dip.

Best 3 yoke oxen, 1st, to James S. and Wm. Wadsworth, Geneseo, $15—2d, to D. B. Fuller, Hyde Park, $10.

Best 10 yoke oxen from one town, 1st, to D. B. Fuller, J. W. Wheeler, Elias Butler, Thomas Allen and John Traver, Hyde Park, $20.

Best 3 years old steers, 1st, to Charles Wescott, Fishkill, $15—2d, to J. W. Wheeler, Hyde Park, $10.

Best yearling steers, to Dr. Vandeburgh, Rhinebeck, $10.

FAT CATTLE.

Best pair, 1st, to George Mills, Livingston county, $20—2d, to Thomas Swift, Amenia, $15—3d, to A. M. Underhill, Clinton Hollow, $10—4th, to Duguid & Candee, Onondaga, Diploma.

Best fat ox, 1st, to D. D Campbell, $15—2d, to Duncan Robinson, $10—3d, to Duguid & Candee, vol. Transactions.

Best fat heifer, 1st, to Martinus Calkins, Chenango county, $15—2d, to Walter Wakeman, North East, $10—3d, to Dr. Vandeburgh, vol. Transactions.

HORSES.

Best Stallion over 4 years old, 1st, to Wm. Salisbury, $20—2d, to John Greenfield, Newburgh, $10—3d, to Silas Belding, Amenia, $6 and vol. Transactions—4th, to A J. Skidmore Fishkill, $4 and Diploma.

Best 3 years old Stallion, 1st, to Calvert Canfield, Pleasant Valley, $15—2d, to Jacob Duncan, Union Vale, $10—3d, to Job Sisson, Washington, $6.

The Committee on Stallions made the following special awards: to David B. Haight, Dutchess county, $10; Aaron Bailey, Cherry Valley, $6 and Diploma; Edward Long, Cambridge, $6; to David Long, as groom, $5; and Diplomas to Epenetus How, North Salem; Wm. H. Ludlow, Claverack; C. F. Crosby, John Cooper, Poughkeepsie; Bastion Moore, Columbia county; S. V. R. Ableman and Corning & Sotham, Albany; Benj. Pettit, Oneida county; L. W. Ten Broeck, Columbio co.; Samuel Verplank, Fishkill.

Best Breeding Mare and Colt, 1st, to Josiah Williams, Poughkeepsie, $20—2d, to Isaac T. Frost, $10—3d, to Thomas Dearin, Poughkeepsie, Diploma. The Committee also awarded $10 to S. C. Roe, and Diplomas to P. Lyon, Washington, and Moses Clark.

Best pair Matched Farm Horses, 1st, to Allen B. Stockholm, Fishkill, $10—2d, to Philip Vanderbelt, Fishkill, vol. Trans.

Best pair Matched Horses, 1st, to Wm. Landon, Albany, $10—2d, to Wm. A. Davis, Poughkeepsie, vol Transactions—3d, to J. P. Beckman, Kinderhook, Diploma.

Best Single Horse, 1st, to De Witt Hasbrouck, Orange county, $10—2d, to Duguid & Candee, vol. Transactions. Volumes of Transactions were also awarded to Anthony Van Bergen, Coxsackie; Samuel Townsend, Orange county, and Benjamin Van Voast.

MULES.

Second best pair, to Nathan Colman, Poughkeepsie, $10.

SHEEP—Class I—*Long Wooled.*

Best Buck, 1st, to L. D. Clift, Carmel, $10—2d, to Thomas Dunn, Albany, $5—3d, to Nathaniel Halleck, Milton, Diploma.

Best pen of 3 ewes, 1st, to L. D. Clift, $10—2d, to Edward Halleck, Milton, $5—3d, to Henry Mesier, Fishkill, Diploma.

Best pen of 5 lambs, to Willet Colver, Hyde Park, $5.

Class II—*Middle Wooled.*

Best buck, 1st, to Isaac Foster, Hillsdale, $10—2d, to J. McD. McIntyre, Albany, $5—3d, to S & J. Wait, Orange co., Dip.

Best pen of 3 ewes, 1st, to S. & J. Wait, $10—2d, to J. McD. McIntyre, $5—3d, to Edward Halleck, Diploma.

Best pen of 5 lambs, to D. B. Haight, $5.

Class III—*Fine Wooled.*

Saxons—Best bucks, 1st, to C. W. Hull, New Lebanon, $10—2d, to Abner Brown, North East, $5—3d, to Samuel H. Church, Vernon, Diploma.

Best pen of 3 ewes, 1st, to Walter Wakeman, North East, $10—2d, to Samuel H. Church, $5—3d, to S. B. Crocker, Vernon, Diploma.

Merinoes—Best buck, 1st, to H. S. Randall, Cortland Village, $10—2d, to H. & J. Carpenter, Poughkeepsie, $5.

Best 3 ewes, 1st and 2d, to H. S. Randall, $10 and $5—3d, to H. & I. Carpenter, Poughkeepsie, vol. Transactions.

Best 5 lambs, to Rawson Harmon, Jr. Wheatland, $5.

FAT SHEEP.

Best, to J. McD. McIntyre, $10—2d, to D. W. Elting, New Paltz, $5—3d, to J. C. Haviland, Dutchess co., vol. Trans.

SHEEP FROM OTHER STATES.

Best fine wooled buck, 1st, to Jacob N. Blakeslee, Litchfield county, Conn., Silver Medal—2d, to Stephen Atwood, Litchfield county, Conn., 2 vols. Transactions.

Best 3 fine wooled ewes, to Jacob N. Blakeslee, Conn., Silver Medal.

SWINE.

Best boar, 1st, to Benj. H. Hart, Lagrange, $10—2d, to James Lenox, $5—3d, to C. F. Crosby, Diploma.

Best sow, 1st, to W. A. S. North, Duanesburgh, $10—2d, to W. T. Hulse, Blooming Grove, $5—3d, to Thos. T. Doty, Beekman, Diploma

Best lot of pigs, 1st, to D. B. Lent, $5—2d, to Thos. T. Doty, Diploma.

The Committee commend a boar and sow of Neapolitan breed, offered by C N. Bement, and a Leicester boar of John Wilkinson.

FARM IMPLEMENTS, &c.

Best Plow, 1st, to Howard Delano, Mottville, Onon. co., $15—2d, to Thomas D. Burrall, Geneva, Shell Wheeled Plow, Silver Medal—3d, to W. U. Chase, Amsterdam, $5—4th, to M. D & T. H. Codding, Rochester, Diploma.

For Gang Plow, to Thomas Wiard, East Avon, $15.

For best Dynamometer, to W. U. Chase, $15—2d, to T. D. Burrall, Geneva, $7—3d, Mr. Seymour, Hartford, Connecticut, Diploma.

Best Farm Wagon, 2d premium to Wm. Cox, Stamford, vol. Transactions.

Best Horse Cart, to John Wilkinson, Union Vale, $5.

Best Horse Rake, 1st, to Gustavus White, Middlefield, $5—2d, to Wm. B. Stoddard, Moravia, vol. Transactions.

Best Grain Cradle, to David Flanders, St. Lawrence co., $3.

Best half doz. Hay Forks, to Taylor, Buttolph & Co., West Stockholm, Diploma.

Best Dung Forks, to Taylor, Buttolph & Co., vol. Trans.

Best Harrow, to John Wilkinson, vol. Transactions.

Best Fanning Mill, 1st, to Isaac T. Grant, Schaghticoke, Silver Medal—2d, to David Bryan. North East, vol. Trans.—3d, to E. Dodge, Watertown, Diploma.

Best Threshing Machine, 1st, to J. A. Taplin, Montpelier, Vt., $15—2d, to S. S. Allen, Poughkeepsie, vol. Transactions 3d, to A. Wheeler & Brothers, Chatham, Diploma.

Best Straw Cutter, 1st, to Wm. Hovey, Worcester, Mass., Silver Medal—2d, to Stephen Armstrong, Poughkeepsie, vol. Transactions—3d, to Thos. P. Thorn, Fishkill. Diploma.

Best Cheese Press, to Egbert Dodge, Watertown, $3.

Best Field Roller, to T. D. Burrall, Diploma.

Best Corn Sheller, to Francis N Smith, Kinderhook, Dip.

Best Bee Palace, to M. O. Remmington, Cayuga co., Dip.

Best Bee Hive, to E. Townley, New York, $5.

Best Harvesting Machine, to George Easterly, Heart Prairie, Wiskonsan, Diploma.

Best Model of Hay Press, 1st, to Dedrick & Brothers, Claver ack, vol. Transactions—2d, to J. H. P. G. Yelverton, Poughkeepsie, Diploma.

Best Rut Shears, to B. Benedict, Geneseo, Diploma.

Best Washing Machine, to Joseph C. Rich, Penfield, Dip.

Best Clover Machine, to Wheeler & Brothers, Columbia co., vol. Transactions.

Best Clover Gatherer, to Benj. N. Hart, Diploma.

Best Apple Drier, to Gustavus White, Diploma.

Best Churn, to David Dakin, Pine Plains, Diploma.

Best Cultivator Plow, to B. Langdon, Troy, $5

Best Stump Machine, to R. H. Hall, Owego, Silver Medal.

DAIRY.

Best Butter, 1st, to I. Martin, Ulster co., $15—2d, to Hester Ann Travers, Troy, Silver Medal—3d, to Theodore Allen, Hyde Park, Silver Medal—4th, to Nathan Colman, Dutch. co., Silver Medal—5th, to Caroline S. Cheeseman, Dutch. co., Silver Medal—6th, to John Lester, Lagrange, Silver Medal.

Best Cheese, 1st, to H. P. & G. Allen, Duanesburgh, $15—2d, to A. L. Fish, Litchfield, Silver Medal.

MAPLE SUGAR.

Best, to Joel Woodworth, Watertown, $15—2d, to Wm. E. White, Walton, $10—3d, to Alfred Fitch, Riga, Diploma.

SILK.

Best Manufactured Silk. 1st, to George Gents, agent for Murry & Co., Paterson, N J. $20—2d, to Clark Avery, Madison co., 2 lbs. sewing, $10—3d, to Miss Margaretta Hutchinson, Long Island, $5—4th. to Wm. Thomas, Col. co., Diploma.

Best Reeled Silk, 1st, to Ruth S. Carey, Saratoga co., $10—2d, to Ira Howland, Pleasant Valley, $5—3d, to C. R. Cable, Constantia, Diploma.

Best Cocoons, 1st, to Ira Howland, $10—2d, to Palmer Cook, Red Hook, $5—3d, to J. C. Church, Poughkeepsie, Diploma.

DOMESTIC MANUFACTURES.

Best Woolen Carpets, 1st, 2d and 3d, to C. M. Pelton, Poughkeepsie, $5, $4 and $3.

Best Rag Carpets, 1st, to Mrs. C. W. Tower, Amenia, $3—2d, to Mrs. James Ryan, New Paltz, $2—3d, to J. Palmer, Poughkeepsie, $1.

Best Woolen Cloth, 1st, to Scofield, Capron & Co., Walden, $5—2d, to J. Bowen, Pleasant Valley, $4—3d, to Titus, Sweet & Co. Dutch. co. $3.

Best Carpet Coverlet, 1st, to Philip P. Knapp, Beekman, $4—2d, to Philip Dubois, New Paltz, $3—3d, to Israel Hall, Fishkill, $2.

Best Woolen Blanket, to Norman Culver, Arcadia, $5.

Best Linen Sewing Thread, 1st, to Peter Crispel, Jr. Ulster co., $2—2d, to Norman Culver, $1.

Best Linen Diaper, 1st and 2d to Mrs. Russell, Lebanon Springs. $5 and $4—3d to Peter Crispel, Jr. $3.

Best Linen, 1st to Mrs. Russell, $5—2d to Peter Crispel, Jr. $4—3d to D. W. Elting, Ulster co $3.

Best Linen Knit Stockings, 1st to Mrs. Freelove Arnold, Quaker Hill, $2—2d to Peter Crispel, Jr. $1—3d to Mrs. Vincent M. Townsend, Diploma.

Best Cotton Knit Stockings, 1st 2d and 3d to Mrs. Charles Thompson, Poughkeepsie, $2, $1 and Diploma.

Best Woolen Knit Stockings, 1st to S. Bassett, North East, $2—2d and 3d to Mrs. Daniel Washburn, Union Vale, $1 and Diploma.

Best Tow Cloth. 1st to Peter Crispel. $1.

Best Hearth Rugs, 1st to Chas. M. Pelton, Poughkeepsie, $5—2d to Nancy Hull, Lexington Heights, $4—3d to Lydia Peck, Lexington Heights, $3.

Best Flannel, 1st to Mrs. G. W. Henry, Lowville, $5.

VEGETABLES.

Best Celery, to Robert Kelly, Rhinebeck, $2.

Best Cauliflower, to Samuel Curry, Poughkeepsie, $2.

Best Turneps, to Michael Kane, gardener of John A. De Groff, Hyde Park, $1.

Best Carrots, to John B. James, Rhinebeck, $1.

Best Beets, to R. L. Pell, $1.

Best Parsneps. to W. Harrocks, Hyde Park, $1.

Best Cabbage, to R. L. Pell, $1.

Best Tomatoes, to R. L. Pell, $1.

Best Egg Plants, to John B. James, $1.

Best Onions, to Joseph T. Adriance, Poughkeepsie, $1.

Best Lima Beans, to Joseph T. Adriance, $1.

Best Double Parsley, to Michael Kane, $1.

Best Squashes, to R. L. Pell, $1.

Largest Pumpkin, to John Townsend, Hyde Park, $1.

Best Seed Corn, to J. F. Osborn. Port Byron, $1.

Best Table Potatoes, 1st to W. Horrocks, $2—2d to Samuel Curry, $1.

Diplomas were awarded for Celery to Samuel Mitchell, Poughkeepsie—to W. Harrock for Turneps and for fine specimen of Green Peas—to Michael Kane, for Orange Carrots—to J. F. Adriance, Poughkeepsie, for White Carrots and for best collection of various kinds of beets—to Nathan Colman, for beautiful specimens of White Onions—to N. Shephard, for Lima Beans—to D. B. Fuller, for 8 varieties of Squashes—to A. J. Downing, for Seedling Rhubarb—to Robert Kelly, for Vegetable Oyster.

Volumes of Transactions were awarded to Joseph F. Adriance for Cuba Pumpkins, 18 from one seed, weighing 776½ lbs.—to Hamilton Morrison, Montgomery, for 12 varieties of Potatoes—to Mrs. Verplanck, Fishkill Landing, for several fine heads of Lettuce—to Thomas Addis Emmet, New-York, for Okra and Cucumbers.

FRUIT.

For greatest variety of Table Apples, 1st to A. J. Downing & Co. Newburgh, $5—2d to John R. Comstock, Washington, $3—3d to J. F. Osborn, Port Byron, vol. Transactions.

For 12 best Table Apples, to R. L. Pell, Pelham, $3.

For greatest variety of Table Pears, 1st to A. J. Downing & Co. $3—2d to Wm. Reid, Murray Hill, vol. Transactions.

Volumes of Transactions were awarded to A. J. Downing & Co. for greatest variety of Winter Pears—to Alex. H. Smith, Hyde Park, for best 12 Quinces—to Mrs. A Thorpe, Schodack, for best 12 Peaches—to A. J. Downing & Co. for best 24 Plums—to W. North, Poughkeepsie, for best 6 bunches Native Grapes—to Robert Donaldson, Blythebood, for best 6 bunches Foreign Grapes.

A Diploma and $1 was awarded to Moses Humphrey, Poughkeepsie, a colored man, 80 years old, for fine specimens of Grapes.

FLOWERS.

For greatest variety, 1st to Miss Verplanck, Fishkill, $5—2d to W. Harrock, $3.

For Floral Ornaments, 1st to Wm. Prince & Co Flushing, $5—2d to Miss Garretson, Rhinebeck, $3.

For Dahlias, 1st to J. M. Thorburn & Co. New-York, $5—2d to J. B. James, Rhinebeck, $3—3d to Messrs Piner. Flushing, vol. Transactions—4th to Mr. Swift, Poughkeepsie, Diploma. Discretionary—$3 to Mr. Van Waggoner, Poughkeepsie, and $1 to Samuel Mitchell, Poughkeepsie.

For Green House Plants, 1st to John N. Stuveysant, Hyde Park, vol. Transactions—2d to J. Charran, Poughkeepsie, Dip.

PLOWING MATCH.

First premium to Wm. H. Warrall, Poughkeepsie, $15—2d to Peter F. Procius, Kinderhook, $12—3d to Valentine Halleck, $10—4th to E. B. Smith, Poughkeepsie, $6—5th to Elias Westervelt, Poughkeepsie, Diploma.

The Committee awarded prizes of $3 each, to John Day, of Lithgow, and James East of Poughkeepsie as the best plowmen.

IMPROVED AGRICULTURAL IMPLEMENTS.

Silver Medals were awarded to George Geddes, Onondaga co. for an improved Harrow—to Roswell H. Hall, Owego, for a Stump Extractor—to Wm. Hovey, Worcester, Mass. for his Straw Cutter—to I. T. Grant, Schaghticoke, for a Fanning Mill.

DISCRETIONARY PREMIUMS.

Needle Work—To Mrs. Tuckerman, 70 years old, for a Counterpane, $2—to De Witt C. Thomas for superior woolen Mittens, $2—to J. G. Wood, Gloverville, for a specimen of buck skin Mittens and ladies' Moccasins, $2—to Mrs. Polly B. Wescott, Greenfield, for Counterpane, $2—to Miss Johanna Hurley, Poughkeepsie, for a specimen of embroidery needle work, $2—and Diplomas to Mrs. J. Reynolds for an embroidered Table Cover; to Miss Eliza R. Davies for raised Worsted Work; to Miss Frances M. Kirby, Watertown, for a beautiful Work Bag; to Miss Akin, Dutchess co. for an elegant specimen of needle work.

Flour—To E. S. Beach & Co. Akron Mills, Ohio, for a *good* barrel of flour, Diploma—to Philip Garbutt, Wheatland, N. Y. for a *better* barrel of flour $3—to John Willliams, Rochester for the *best* barrel of flour $5.

Diplomas were awarded to Miss McDonald, Poughkeepsie for a beautiful specimen of Wax Imitation of Fruit; to Comstock and Johnson of Rome, for a splendid assortment of Garden Tools; to Lewis Wetham, Poughkeepsie, for two elegaet Piano Fortes; to Maurice Cunningham, gardener of R. L. Pell, Esq.; to Charles Roome, New-York, for a specimen of the application of Coal Tar as a paint; to James Vail, Poughkeepsie, for an Artificial Grotto; to Miss Mary Sherwood, Fishkill, for one Divan and three Gilt Frames; to John M. Ketchum, for 3 slabs of fine white and clouded Marble from the quarries of Dover, Dut. co.; to Gifford and Sherman, Poughkeepsie, for a specimen of ground Dye-wood in jars; to Jared Gray, Poughkeepsie, for beautiful specimens of Hair Work; to Elisha M. Haley, Poughkeepsie, for a handsome specimen of fancy Brick; to Peter Crispell jr., for a specimen of Flax; to Augustus Thayer, Malden Bridge, for a Columbian Pump; Peter Van Vliet, Newburgh, for a specimen of Cooperage; to Hiram Pierce, Cooperstown, for a beautiful specimen of Penmanship; to Gen. R. Harmon, Jr., Wheatland, for 35 varieties of Wheat in the ear; to John R. Stuyvesant, Hyde Park, for 3 Top Knot Fowls, remarkable for laying eggs the whole year without intermission; to B. J. Hayes, Hastings, for a specimen of Egyptian Wheat in the ear; to Russell Comstock, Washington, for Seedling Apples and Pears; to Noah Gridley, Amenia, for two pairs Sad Irons; to Abram Fonda, Poughkeepsie, for samples of Tooth Wash, Tooth Powder and Tooth Paste; to Anson Barhydt, Col. co. for 3 models of Bee Hives and Bee House.

Manufactures—Diplomas were awarded to the Middlesex Co Lowell, Mass. for a splendid assortment of Broadcloths, Cassimeres and fancy Woolens, J. Gleason, agent; to Archibald Winter, Roundout, for a specimen of Shoes made by a machine from one piece of leather without a seam; to Z. Pratt & Co Prattsville, for 4 sides of Spanish leather, sweated and tanned in 5 months in hemlock, in the common mode; to Watson and Dwight, Windham, for 4 sides of slaughtered Sole Leather, tanned in hemlock in 4½ months, in the usual mode; to Wm. Wilson, Poughkeepsie, for a Ledger in elegant Russia binding; to Joseph Laubach, Middletown, Penn. for an Iron Revolving Hearth; to John C. Chambers, Poughkeepsie, for a beautifu Row Boat; to G. M. Veile, Poughkeepsie, for a Hat; to Henry D. Myers, Poughkeepsie. for a Pump and Block; to Wm. Shiels Poughkeepsie, for a fine specimen of Mahogany Grained Doors, to R. G. Holmes, Poughkeepsie, for a beautiful set of Artificial Teeth; to Bernard Skinner, Poughkeepsie, for a beautiful specimen of Buck skin; to Granger and Todd, Oneida co. for a spe imen of Glass Ware; to Thomas Prosser, New-York, for a beautiful variety of Porcelain Buttons, to Mosely, Howard & Co. Poughkeepsie, for specimens of Solid Head Pins; to Fairchild, Pelton & Co. Poughkeepsie, for specimens of the same; to M Morse, Rochester, for an elegantly bound Blank Ledger; to John Eisel, Poughkeepsie, for a beautiful specimen of Boots; to Alex. Wright, Poughkeepsie, for a Rifle; to Alex. Ross for American manufactured Brussels Carpeting.

Carriages and Sleighs—Diplomas, to John H. Wood, Poughkeepsie, for Carriages and Sleigh; to John W. Whitney, Poughkeepsie, for a single horse Carriage; to Harvey Palmer, Poughkeepsie, for a single horse Pleasure Wagon.

Stoves—To Wager & Dater, Troy, for 4 Air Tight Stoves, $3; to Smith, Lockwood & Co. Troy, for 4 family and 1 hotel Stove for coal or wood, $5, and Diplomas were awarded to J. T. McCarty & Co. Rhinebeck, for one stove; to Barnard & Heermance, Poughkeepsie, for 2 cooking stoves; to Low & Bradley, Poughkeepsie, for 2 stoves; to George Smithson, Poughkeepsie, for a Cooking Closet; to W. O Jenks, Albany, for a Parlor Coal Stove; to James Robb, Peekskill, for a cooking stove; to R. D. C. Stoughtenburgh, Poughkeepsie, for a Parlor Wood Stove and a Parlor Coal Radiator; to Atwood and Cole, Troy, for 4 cooking stoves; J. C. Heermance, Schenectady, for 2 cooking stoves.

Smut Machines—To Wm. Delaney, Canterbury, $5; to W. G. Borland, Little Falls, $3; to E. F. Cushman, Troy, $3.

A premium of $2 was awarded to John Wilkinson, Union Vale, for a specimen of Chrystalized Maple Sugar; to Andrew Meneely, West Troy, for two Church Bells, weighing 650 and 1525 lbs., with improved cast iron yokes, and 1 gilded Steamboat Bell weighing 172 lbs., of beautiful tone and finish; to John Dalley, Troy, for a fine specimen of cut Tobacco, $2; to Thomas N. Smith, New Paltz, for a fine specimen of Harness and Top Leather, $3; to Wm. H. Sleight, Hyde Park, for a Stove Drum, and beautiful specimens of tin Coffee Urns and Tea Pots, $2; to G. W. I. Brownson, Amsterdam, 3 kinds of Brooms and Brushes, $3; to Dedrick and Brothers, Claverack, for a Fire Escape, $3; to Wm. Roze, Philadelphia, for a hoof splitting machine, very ingenious, $5; to 6 pupils of the Institution for the Blind, New-York, for 8 specimens of Willow Work from American willows, presented by J. R. Horn, $6; to John C. Hall, Fallsburgh, for a sample of beautiful Timothy Seed, $3.

There was a most beautiful *carpet* sent by Mrs. E. MINOR, of Canton, St. Lawrence county, which from a misdirection, did not arrive in time for the Fair. This is a matter of regret, not less so to others than to the lady to whom it belongs. It was retained for a few days and exhibited at the hall of the State Agricultural Society in this city, and was, by all who saw it, pronounced a most superb article. It was wrought by Mrs. Minor during her hours of leisure from household duties, through a period of *eight years*. The border consists of twenty-four groups of flowers, wrought with most exquisite taste and precision, yet all different in their character. The center consists of groups of cattle, sheep, with their shepherds, and other rural scenes—representations of buffalo and moose-hunting—animals and plants of tropical countries, where are shown the camel-leopard, lion, lioness and whelps, &c.—in another part were groups of birds, domestic and wild pigeons, pheasants, &c. Altogether it may be considered a splendid specimen of the ingenuity, industry and fine taste of the manufacturer.

CULTIVATION OF FRUIT—No. X.

THE APRICOT.

It is remarkable that a fruit of such excellence as the apricot, and ripening as it does from one to two months before the best early peaches, should be so little known. A year or two since, being in company with three persons from different parts of the country, one of whom was a distinguished bookseller, another a well known public lecturer, and a third an eminent clergyman, I handed them a few specimens of ripe apricots;—the first exclaimed, "This is a truly excellent fruit, and the first of the kind I ever tasted." The two others made the same remark—they had never seen the fruit before, although traveling yearly thousands of miles, and visiting all parts of the country. Similar remarks have often been made by others.

The apricot, in its natural character, is more nearly allied to the plum than the peach, resembling the former in its leaf, and in the stone of the fruit, but downy like the latter, and the finer varieties partaking largely of its flavor and excellence.

The apricot is budded on seedling apricots, and on peach and plum stocks. The plum stocks are preferred; but the great superiority they possess over peach stocks, so often ascribed to them by writers, we have not found by experience. They have not afforded protection from the worm, as that insect, not to be thwarted, will penetrate the bark above the point of junction between the bud and stock. In one case, an apricot, grafted three feet from the ground, into a plum tree, was destroyed, the worm entering at that distance from the ground. Examination proved it to be the same insect that attacks the bark at the roots.

The *soil* should be deep and dry. Last winter the writer lost a large number from their standing on a wet subsoil, though the surface was dry. Their growth is about the same as that of the more vigorous varieties of the plum, so that when fully grown they need about twenty feet square of ground for each tree.

This fruit appears to be about equal in hardiness to the earlier varieties of the peach, and escapes destruction by cold when the latter is not killed. It is however, pre-eminently liable to the attacks of the Curculio, and the usual destruction of the young crop by this insect often leads to the erroneous opinion that it is not adapted to our climate. The means for destroying the Curculio, mentioned in former numbers, when vigorously and thoroughly applied, have insured abundant and regular crops.

Among the varieties, the *Peach* and *Moorpark* (considered by many as identical) stand first on the list. The *Musk* is also very fine. The *Breda*, though inferior in quality, is hardy, vigorous, and a great and constant bearer. The *Black* apricot, a different species, is perfectly hardy in our severest winters, and though second-rate in quality, is an abundant bearer, and well worthy of cultivation.

J. J. T.

IMPROVED STOCK.

THE subscriber has now on hand and will sell, at fair and reasona able rates, several Durham cattle, consisting of cows, heifers anc calves; also two bulls, a cross of the Durham and Ayrshire stock.

SOUTH DOWN SHEEP.—Two yearling bucks, several buck lambs and 16 ewes from 3 to 4 years old.

All letters, (post paid,) will be punctually attended to. Address

C. N. BEMENT,
September 1, 1844. *American Hotel, Albany.*

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, i the county of Saratoga, collectively known as the Ear Stimson Farm, will be sold cheap and on terms most accommo dating to the purchasers as to credit. The property consists o about 340 acres, is so situated as to be conveniently divided int three or four farms, all having the necessary buildings, and wil be sold together or in parcels, to suit purchasers. Each farn is properly divided into pasture, tilled and wood land, and is i the highest state of cultivation, fenced in the best manner an with the most durable materials. The property comprises a mong other buildings, a large and convenient hotel, which is favorite resort of families in the summer on account of the su perior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for al the purposes of agriculture and the raising of stock. The pre mises also include a country store, a most eligible location fo a country merchant, having been occupied as such for abou forty years. It is within two hours drive of Ballston, Saratoga and Schenectady. The farm is well known among leading ag riculturists, and in the agricultural periodicals, as the Patter Farm. For terms, &c., apply to J. OAKLEY,
Oct. 1.—tf. No. 75 Nassau street, New-York.

FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at hi long established Seed Store, a supply of the best qualit and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, *Red Top*, or *Herd's Grass*, *Orchard Grass*,
Lucerne, or *French Clover*, *White Clover*,
Trefoil, *Kentucky Blue Grass*, &c. &c.

Also, the different varieties of Wheat, as White Flint, Re Chaff, Mediterranean, and English—for sale in lots to suit pur chasers at moderate prices, by ISRAEL RUSSELL,
Feb. 1, 1844.—mar. oct. 26 Front-street, New-Yor

FOR SALE.

15 SAXONY BUCKS, raised upon the farm of the late Elam Tilden, can be had at reasonable prices, by applying to Col. Tanner, on the premises. M. Y. TILDEN, P. M.

New Lebanon, Columbia Co. N. Y. Sept. 7, 1844—1t.*

IMPORTED AYRSHIRE CATTLE.

THE subscriber offers for sale the imported Ayrshire *Cow and Bull*, lately exhibited at the State Fair, both of which received a premium. Also, a bull calf 7 weeks old, and a yearling bull, both out of the above. Also, a very superior Durham bull calf, 6 months old.

Albany, Sept. 26, 1844. JOEL RATHBONE.

FRUIT TREES.

THE subscribers would respectfully call the attention of the public to their assortment of FRUIT TREES. They are enabled this fall to offer a choice collection of many of the most esteemed varieties of Apples, Pears, Cherries, Peaches, Plums, &c. The assortment of trees having been considerably increased. persons desirous of obtaining articles in the nursery line, will find it worth while to examine the collection previous to purchasing elsewhere. All of which will be offered at very reasonable prices for CASH.

N. B. All articles intended for distant transportation will be carefully packed at the expense of the purchaser, and delivered free of cartage to any part of the city.

WILSON, THORBURN & TELLER.

☞ Orders sent to William Thorburn, Seedsman, Albany, will receive prompt attention.

Albany, Oct. 1, 1844—2t.

BUFFALO NURSERY AND HORTICULTURAL GARDEN.

THIS establishment is now somewhat extensive; from 25,000 to 45,000 trees are engrafted or inoculated each year, and these too, mostly from bearing trees, embracing nearly all of the most choice and leading varieties of the Apple, Pear, Peach, Plum, Cherry, Quince, Nectarine, Apricot, Grape, Gooseberry, Raspberry, Strawberry, &c. Also, a large stock of ornamental trees, flowering shrubs, and green-house plants.

The new descriptive Catalogue, recently published, will be forwarded to every post-paid applicant. This Catalogue gives in detail, the name, color, form, size, &c. of the various kinds of fruits cultivated at the establishment, together with ample descriptions of ornamental trees. shrubs, plants, roses, &c.

Trees thrifty and fine; prices moderate. Orders promptly attended to. Trees packed in superior order. B. HODGE.

Buffalo, Sept. 20, 1844—2t.*

NORMAN HORSES FOR SALE.

THE undersigned, having relinquished farming, offers for sale his entire stock of Norman horses, twelve in number: imported, and their descendants. As he proposes to exhibit his stallion 'Diligence,' and two of his colts, broken to harness, at the Fair of the American Institute in the city of New-York, on Wednesday, the 16th of October next, and offer them for sale on Friday, the 18th, he deems it unnesary to enter into particulars, as he will be present to answer enquiries. He will merely refer to pages 172 and 193 of the Cultivator for 1842, the American Agriculturist, page 209, for 1844, the New-York Central Farmer for March, 1844, and the Farmer's Cabinet of Philadelphia. vol. VI. No. 9, for information in regard to his importations of these horses, their uses, &c. The balance of the stock, consisting of 1 stallion and 2 mares, imported, and 3 stud-colts and 3 mare-colts, their progeny, will be held at private sale at Moorestown, in the county of Burlington, New-Jersey, 9 miles from Philadelphia, by

October 1—1t. EDWARD HARRIS.

TO FARMERS.

THE undersigned, having succeeded L. Bostwick & Co., in their business, will continue to manufacture and vend the "Warren's Improved Horse Power and Threshing Machines," to order.

Being now so completely perfected, they prove from experience, wherever correctly known, as now made, to be preferred before all others at any thing like *their low price*, which brings them within the ability of every farmer. And if "time is money," and "economy is wealth," no prudent farmer who raises even a small quantity of grain, will do without them.

Every satisfaction in regard to them, can be given at the office of the subscriber.

Prices of the Machines, as follows—viz: a sett of one horse machines, for only $50 and $60—two horse, $75—four horse, $110.

H. BARTLETT,
Successor to L. Bostwick & Co., 146, Front-st., New-York.

N. B. The subscribers take this opportunity with pleasure, to recommend Wm. Bartlett to the full confidence of all who may favor him with their orders. L. BOSTWICK & Co.

October 1—1t.

LINNÆAN BOTANIC GARDEN AND NURSERY,

LATE PRINCE'S.

Flushing, L. I., near New-York.

THE NEW DESCRIPTIVE and UNRIVALLED CATALOGUE, not only of FRUIT, but also of ORNAMENTAL TREES, SHRUBS and PLANTS, cultivated and for sale, *at reduced prices*. at this ancient and celebrated Nursery, (*the* IDENTICAL *premises known as* PRINCE'S, *and by the above title for nearly fifty years.*)

☞ WITH DIRECTIONS FOR THEIR CULTURE, may be had *gratis* on application by mail, *post paid*, to the New Proprietors, who will endeavor to merit the confidence and patronage of the public, by integrity and liberality in dealing, and moderation in charges. WINTER & Co., Proprietors.

Flushing, August 31, 1844—2t.*

STRAWBERRIES, &c.

WM. R. PRINCE & Co., Flushing, offer for sale, all the forty-eight varieties described and priced very low, in their Catalogue of 1843-4, 33d edition, among which are Swainstone, Garestone, British Queen, Victoria, Black Roseberry, Hovey's Seedling, Prince Albert, Ross Phoenix, Bishop's Orange, Myatt's Pine & Eliza, Melon, Keen's Seedling, Elton, Southborough, Downton, Warren's Seedling, Black and Prolific and Green Hautbois, Old Scarlet, Large Early Scarlet, Red and White Wood, and Red and White running and Bush Alpine, &c. Also, these additional new varieties, Crimson Cone, Bishop's Wick, Coul, late Scarlet, Turner's Pine, at $2 per dozen.

Orders not less than $5, enclosing cash, will meet prompt attention. 500 Fastolf Raspberries, very large fruit, and very strong growth, and all other choice varieties. From now till November, the strawberries can be planted.

Prince's Lin. Garden and Nurseries, Flushing, Aug. 9, 1844—2t.

MOUNT HOPE GARDEN AND NURSERIES,

ROCHESTER, N. Y.

THE proprietors of this establishment. respectfully announce to the public, that their present stock of *Fruit and Ornamental Trees, Shrubs, Plants*, &c. which they offer for sale the coming fall, is very large and fine. The collection of the various fruits, for the garden and orchard, comprises the most popular and esteemed varieties known in Europe or America. The trees are handsome, thrifty and of the most suitable size and age for transplanting, and being propagated by the proprietors themselves with the most scrupulous care, either from bearing trees in their own grounds, or from others of undoubted genuineness, and being in every other respect, until they are sent from the nursery, under their *immediate personal supervision*, they can be confidently recommended to the most exact and scrutinizing cultivators.

The collection of fruits includes 1,000 Pear trees of the best varieties, selected in one of the best fruit nursery's in France, last spring, by one of the proprietors. They are grown on Quince stocks for dwarf pyramids, &c. and are now in a bearing state.

Also, 3,000 trees of the valuable native Apple, the "Northern Spy," one of the best keeping varieties cultivated.

The stock of Ornamental Trees, Shrubs, Roses, &c. .is very large, and will be furnished at very moderate prices; where quantities are wanted for ornamenting public grounds, a liberal discount will be made. The collection of Roses includes 1,000 standards, 4 to 6 feet high, of the finest varieties of Province, Moss, Chinese and Noisette Monthly, Tea scented, &c. A large assortment of Dutch bulbous roots will be received from Holland in September, and furnished to amateurs, gardeners and agents on very liberal terms.

It is expected that all orders coming from persons unknown to the proprietors, will be accompanied by a remittance, or that some responsible reference will be given Priced Catalogues will be furnished gratis to all who apply *post paid*. Address

Rochester, N. Y. Sept 1844—2t. ELLWANGER & BARRY.

P. S. 50,000 seedling apple stocks 2 years old, will be sold at $6 to $10 per 1,000, if application be made immediately. E. & B.

GREAT SALE OF ELECTORAL SAXON SHEEP.

THE undersigned will sell at vendue the two flocks of *Pure Electoral Saxon Sheep*, belonging to the estate of the late Henry D. Grove, as follows:

1. That at Grainger, Medina co., Ohio, consisting of about 400 sheep, on the farm now occupied by them, on the 30th of *September next*.

2. The home flock, at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th of *October next*.

A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool from which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with of equal fineness. SAM'L LAWRENCE.

Lowel, April 9, 1844."

Terms of sale, cash.—Reference, Sam'l Lawrence, or either of the subscribers.

Buskirk's Bridge, April 20, 1844.

ELIZA W. GROVE,
W. JOSLIN,
S. A. COOK.

my1.—5t.

SUPERIOR FARMS FOR SALE.

TWO superior productive farms in Rensselaer county, 2 miles from Hoosic Falls. The farms are about one hundred acres each, and so situated as to be conveniently worked as two or one farm: each having the necessary buildings, and being judiciously divided into pasture and tilled land, all recently fenced with entire new materials in the most durable manner. The land is all of the first quality, and its present state of cultivation would bear a good comparison with any land in the county. These Farms will be sold together or separate, on terms most accommodating as to price and credit. Apply to

Lansingburgh, July 16, 1844. ALEXANDER WALSH

DEVON CATTLE.

HAVING had frequent enquiries last season for Devonshire Cattle, I now have the satisfaction to state, that I can accommodate those who wish, with some good Calves, Yearlings or Two-year-olds, Bulls or Heifers. E. P. BECK.

Sheldon, Wyoming Co., July 1844.—2t.

THE CULTIVATOR.

NEW "TO IMPROVE THE SOIL AND THE MIND." SERIES

Vol. I. ALBANY, NOVEMBER, 1844 No. 11.

THE CULTIVATOR
Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

Seven copies for $5,00—Fifteen copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of "The Cultivator," consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

☞ This paper is subject to newspaper postage only, being one cent within the state or within 100 miles of Albany, and 1½ cent for any greater distance.

THE CULTIVATOR.

MONTHLY NOTICES.

Communications received the past month, from J. P. Norton, J. M. Tower, S. Weller, C. D., A Subscriber, H. S. Randall, T. H. Hyatt, M. D. Codding, B. Woodcock & Son, J. Deveraux, T., L. Durand, H. Sanford, J. H. McDewell, J. J. T., Geo. J. Pumpelly, H., J. D. F., L——, Wm. Jennison.

We are indebted to Messrs. Appleton & Co., booksellers, New-York, for a copy of Fresenius' "Elementary Instruction in Chemical Analysis," reviewed by our correspondent "A Practical Farmer," p. 160—To M. H. Newman, bookseller, New-York, for "The Housekeeper's Annual for 1845," and the "Kitchen Directory and American Housewife," both valuable works for the ladies. —To J. S. Skinner, Esq. for a pamphlet on Guano, detailing a variety of experiments with this manure, made in this country and in Europe. To Thomas Hancock, Nurseryman, Burlington, N. J., for a copy of his new Descriptive Catalogue of Fruit and Ornamental Trees, Green-House Plants, &c.—To P. L. Simmonds, Editor Colonial Magazine, London, for a number of his Magazine, and for the Journal of the Ag. and Hort. Society of Western Australia for 1842.

☞ Our esteemed fellow citizen, Professor E. N. Horsford, recently sailed for Europe with the intention of spending several years in the investigation of chemistry, and the natural sciences, under the direction of Professor Liebig, and other distinguished men, in different parts of that continent. Professor H. is a young gentleman who is already favorably known in this country for his scientific investigations, and we doubt not that through his characteristic energy and industry, a fund of useful knowledge will be accumulated, which will not only be highly gratifying to himself, but will, should his life be spared, render his future labors highly valuable to his countrymen. It affords us great pleasure to inform our readers that occasional letters from Professor Horsford, during his residence abroad, will be given through the columns of the Cultivator

Imported Durham Cow.—George Vail, Esq. of Troy, informs us that he has received by ship Roscius, Capt. Collins, from Thomas Bates, Esq., Kirkleavington, Yorkshire, England, a young cow, four years old, called *Lady Barrington* 3d. Her pedigree will be found in the second part of vol. 5th of the Herd-book. She was by Mr. Bate's bull *Cleveland Lad*, (3,407) which took the highest premium at the show of the Royal Agricultural Society at Liverpool, in 1841. Mr. Bates obtained the first of the Lady Barrington family, in 1831. They are said to have been the favorite tribe of cows of the late Lord Barrington, from 1794. It will be seen by an advertisement in this number, that Mr. Vail offers a few of his Durhams for sale.

Importation of Dorking Fowls.—We were shown a short time ago, by L. F. Allen, Esq. of Buffalo, several very fine Dorkings, just arrived from England. Mr. Allen intends these for making a fresh cross on the fine stock he has for several years had. They are an excellent breed of fowls. Mr. H. T. Chapman, of New-York, also received some Dorkings by the same vessel which brought Mr. Allen's.

Wild Turkies.—A friend has left in our charge two pair of wild turkies, brought from Illinois. They were hatched from eggs of the wild turkey, obtained in the woods, but being brought up in a state of domestication, are perfectly tame and contented. They are yet young, being chicks of the past summer. Great advantage is known to result from crossing the common domestic turkey with the wild one. The progeny are much more hardy, make larger birds, and grow up with less difficulty. The flesh is also thought to be improved. Those left in our care, are for sale at $10 per pair.

Choice Potatoes.—In the October number, we spoke of a superior kind of early potatoes, grown on Professor Hall's place, near this city. We acknowledge the receipt of a sample of these potatoes, which may be seen at this office. They are white, of good size and excellent quality—are very early, and yield well. They produced the past season, on soil of medium quality, near three hundred bushels per acre, and were wholly ripe before the *blast*, which generally struck the potatoes in this region, came on—being fit for market by the fourth of July.

The Cultivator Almanac for 1845.—Such has been the demand for this Almanac, that we have already disposed of over sixty thousand copies. Orders for any section of the country can be supplied—price $15 per 1000—$2 per 100. For the information of our friends, we would state that the "Cultivator Almanac," can be obtained of M. H. Newman, bookseller, 199 Broadway, New-York—Carey & Hart, booksellers, Philadelphia—Armstrong & Berry, booksellers, Baltimore—W. H. Moore & Co. booksellers, Cincinnati—A. D. Phelps, 124 Washington-st., Boston—Henry Vail, Montpelier, Vt.—David Kirkaldie, Rutland, Vt.—J. C. Derby & Co., Auburn—Wm. Alling, Rochester—T. Morehead, Erie, Pa. Wm. S. Maynard, Ann Arbour, Mich.—Graves, Wood & Co. Macon, Ga.

The Bitter Rot in Apples.—Mr. J. H. McDewell, of Cumberland county, Pa., informs us that a neighbor of his had two apple trees, the fruit of which was much affected with the *bitter rot*. Noticing that the ground under the trees was covered with White Plantain, which he thought indicative of a poor soil, he manured the ground heavily with stable manure, and the result is that the trees bear annually fine crops of fruit, not in the least subject to the rot.

Lucerne.—If J. W. J. of Westbrook, N. C., will re-peruse the article on the culture of Lucerne, Sept. No. p. 173, he will find the information he asks for. It is to be sown in *drills* (not hills) or rows—the *rows* to be ten inches apart. Sown in this way, ten pounds of seed will be sufficient for an acre.

The American Farmer.—The publisher of this well known paper, Mr. S. Sands, being about to engage in the publication of a daily journal, offers the Farmer establishment for sale. It affords a favorable opportunity for a gentleman who has a taste for agricultural pursuits, to engage in their promotion, with profit to himself and advantage to the public. Address Mr. S. Sands, Baltimore.

The Crops in Alabama.—Extract of a letter from Dr. N. B. Cloud, dated La Place, Macon county, Sept. 30: —"The crops in this county the present season may be considered upon the whole as good—both cotton and corn. We experienced a most injurious drouth in the early part of summer, which we supposed for a while had cut the crop short at least one half, but in this we shall be mistaken, as the crop is gathering well. In the prairie lands, the wet since the drouth, and the worm and rust consequent thereupon, have produced considerable damage, which has not been the case upon the sand lands to but a very limited extent. The new crop is selling in Montgomery at from 6 to 6½ cents per lb. No new corn selling—50 cents per bushel is being asked."

At page 88, vol. 10, of the Cultivator, Dr. C. will find the recipe for making stucco whitewash, which he inquires for.

Encouragement to Silk Growers.—M. Van Schaack, Esq., of New-York, has proposed to give $1,000 to the American Institute, to be awarded as premiums, in sums of $100 annually, to encourage the growth of silk.

Good Cotton.—The Macon (Ala.) Republican of Oct. 10, says—"We have in our office a single *limb* of a cotton stalk, which has on it *sixteen* bolls! It was sent us from the plantation of Col. Whiting Oliver, of this county. We have never seen its match."

DISEASE IN POTATOES.

We have numerous accounts of the "*rot*" in potatoes. It is, however, much more prevalent in some districts than in others. In a late visit to the easterly part of Massachusetts, we found very little complaint of this malady. In some cases the vines have blasted, but the tubers, excepting on very wet and heavy land, or where planted late, have not much rotted. As to the original cause, we are still about as much in the dark as ever. Mr. Teschmacher, of Boston, and some others, think the decay is occasioned by a fungus, but what produces the fungus, is not yet ascertained. Some peculiar atmospheric influence has undoubtedly been the remote cause of the defect. The necessary agency of electricity in animal and vegetable life, is well known; but what particular combinations, states or conditions of this element, are essential to the development or continuance of this life, we know not. It is evident, however, that any unusual variation of so important a principle, would sensibly affect vegetation.

Our accounts from Europe, state that the disease has been more or less prevalent in many parts of that continent for four or five years. There is an elaborate article on the subject in the last number of the Quarterly Journal of Agriculture, but nothing particularly new or important is brought out. The rot is said to assume a varied character, and its different forms are designated as the "Wet and Dry rot."

We have received from a correspondent at West-Schuyler, Herkimer county, who signs "J. D. F." an article from which we condense the following.

The disease first made its appearance in that neighborhood last year, about the beginning of October, but did not much affect the potatoes until after they were dug. This season, the decay commenced much earlier, and prevails more extensively. In many instances the crop will be lost—whole fields are abandoned as not worth gathering. Our correspondent states that on his farm, "the potatoes are large and abundant, but when dry, three-fourths of them are more or less decayed, emitting a fetid odor, truly sickening." "I find," he observes, "on most of them, a small fungus, in appearance like a bluish mould, and those that are close to each other in the hill, unite and become one mass of fetid matter." From considerable inquiry, he has come to the conclusion that all sorts, and all varieties of potatoes, are equally effected, "though some fields much more than others." He thinks "those planted in the richest soils, have perhaps suffered a little worse than those on poorer lands." Between early and late planting, he can not perceive much difference.

"J. D. F." suggests that the cause of this defect "may be found in our seed having been planted too long without change." He continues, "if this is the case, the remedy must be in procuring seed potatoes from a distance. Should I live, I intend to procure some both from Ireland and North Scotia. Perhaps potatoes raised from the seed of the potatoe-ball would do better. Will some of your correspondents give through the Cultivator the process of saving the seed and planting?"

We shall not be in haste to advance *theories* on this subject, but shall collect all the facts in our power, and lay them before our readers. In relation to the communication of "J. D. F." we would remark that the idea of the disease having originated in the degeneracy of varieties from age, has been before advanced by others; but for our own part we cannot think facts support such a conclusion. Numerous instances might be cited, where those kinds which have suffered most, have been those which were produced from the ball within a few years, and many of the kinds which have been least affected, are the oldest known in the country. The disease may be called an *epidemic*, and in reference to it we feel warranted in laying down the following as facts.

First—that certain localities or neighborhoods have been more subject to it than others. *Second*—that although the *blast of the tops* (in the same variety) seems quite general on all descriptions of soil where the disease prevails, yet the *decay of the tubers* more frequently occurs on wet and heavy, than on light or loamy soils. *Third*, that certain *kinds* of potatoes, which have been generally known as less *hardy* than others, are the first to be affected, and that other and more hardy kinds are more exempt from attack; but in the most infected districts, the malady may affect all—corresponding in this respect to epidemics among animals. Some are more predisposed to the disease than others, yet where it assumes the most malignant form, all may be swept off.

In relation to raising potatoes from the ball, we have several times produced them in this way. We have generally obtained several varieties from the same planting of balls—some of which were worthy of cultivation, and some nearly worthless. The same rule prevails here as in raising apples from seed—among many worthless kinds, we get, occasionally, a superior one.

The balls should be gathered in the fall, from which the seeds may be washed and dried, or the balls may be kept in the cellar all winter, and planted in good mellow soil in the spring. When fairly up, they may be carefully transplanted in rows two feet apart, and eight inches in the row, well hoed and kept clean from weeds. Some of them, if the season is good, and they are well managed, will grow to the size of hen's eggs the first season. At the time of digging, sort out the varieties, and plant them separately the next spring. The respective qualities of the different kinds, can be told pretty accurately the second season, when such as it is advisable to preserve, may be adopted, and the others rejected.

In Mr. Norton's letter from Europe, in this number, will be found some interesting remarks on the subject of the disease in potatoes.

Mr. T. R. Stackhouse, of Jefferson county, informs us that where his potatoe-vines were struck with rust, he found the potatoes much more likely to be affected with rot, and those tubers were most affected that came nearest in contact with the stalk.

CROPS IN MISSISSIPPI.

By a letter from M. W. Philips, Esq., of Miss., we learn that the cotton crop of that neighborhood was being gathered in good order; but an opinion could not yet be formed in regard to the yield of this season. Dr. Philips says, "there is no crop so uncertain as the cotton crop. As to saying what it will be, even if to all appearances half done, yet there is uncertainty—a late fall will increase it vastly. This year, I have 9 acres to the hand in cotton, and excepting two of them, I should make an average of 1,600 lbs. per acre—crop planted early, cultivated well, often and late—but I shall not make over my last year's crop, (which was 6½ bales from 9 acres,) *if I do that.*"

Dr. Philips thinks that the cotton resources are greater than many suppose. He says, "we can grow in a favorable season, such as 1830 or 1839, full 3 millions of bales, *which will be done,* (not this year, I mean,) and when done, look out for land and negroes going down. I cannot stir my fellow citizens up on this important matter—they plant too much cotton, and too little of other things. By and by, when starvation stares them in the *meat-pot,* they will want fields of grass, and orchards and gardens."

Dr. Philips observes that a great interest is beginning to be taken in his region of country in the production of fine fruits. For peaches, plums, nectarines, figs, &c. he thinks the climate and soil of Mississippi admirably adapted.

Samples of Wool.—We have shown the samples of wool sent by Dr. Philips, to one of the most extensive wool-dealers in this city. He informs us that the samples of lambs' wool, marked 1 and 2, are worth at this time, the following prices, viz: No. 1, 33 cts., and No. 2, 35 cts. per pound. That the sample marked No. 3, "Saxon Ram ('*Father Abraham,*') would be worth, if well washed, 40 cents per pound.

It is proper to remark that all wool has lately fallen in price in the eastern markets. It seems to us that the sample marked No. 3, is nice wool, and if properly cleansed would be highly valued by the manufacturers of fine cloths. The lambs' wool cannot be so well judged of. The samples seem to have come from a variety of sheep, in which the lambs are born covered more or less with hair. In some of the Spanish varieties, the lambs are always hairy at birth, but the hair afterwards comes off, and is succeeded by fine wool. In many cases where the lambs are hairy at first, the fleece improves much in fineness after the first shearing.

NEW PUBLICATIONS.

Dictionary of the Farm, by Rev. W. L. Rham.—This work, the publication of which has been sometime delayed in consequence of the sudden death of the author in 1843, has just made its appearance. The work is arranged in alphabetical order, neatly printed, and numbering 576 pages. We have looked over the book with some attention, and can say that we have seen no publication in which the researches of science and study are more happily united with the dictates of experience and sound judgment; and we have no hesitation in recommending the "Dictionary of the Farm," to the attention of the agriculturists of this country. Published by Chas. Knight & Co., London, and for sale by Wiley & Putnam, and D. Appleton & Co. New-York—price $2,50.

Farming for Ladies, or a Guide to the *Poultry-yard, the Dairy, and Piggery,* by the "Author of British Husbandry."—The character of this work will perhaps better appear by the following extract from its preface, than from any description of our own:

"'Our business in life is to be happy,' and the true way of making it so is to be contented with a moderate income; but, in acquiring this, it is not perhaps so much the art of *gaining it,* as that of judiciously *spending it,* that we have to learn, and it is only in well regulated families, conducted by a careful housewife, that it is to be known. She it is on whom rest the enjoyments of home. It is on her management that domestic comfort depends; it is by her cares that she draws around her family circle those social pleasures which endear it to the heart of every inmate of good feeling; and the man who does not duly appreciate her efforts for that purpose, assuredly does not merit the smiles with which she cheers him on his return from the anxieties of the day."

This little treatise is neither intended for the mere cottager, nor for persons of large fortune, but for those ladies in middle life who study healthful domestic economy, either for pleasure or the profit it affords; though, in saying this, we may justly add—that a cottage housewife might gather useful hints from its contents, and that a duchess would lose nothing by its perusal.

The work is got up in fine style, accompanied with beautiful illustrations, and combines, in an attractive manner, the ornamental with the useful in domestic economy. For sale as above, price $2,75.

VERMONT CATTLE SHOWS.

During the past year, several Ag. Societies have been organized in Vermont, and their fairs are exciting the attention of the farmers as they have done in other places? The first Fair of the *Windham County* Society was held at Newfane on the 25th and 26th Sept. The meeting is said to have been the largest ever held in the county, with the exception of a political meeting in 1840. There were over 1200 wagons present. Among the cattle, was a team of sixty yoke of oxen from West Newfane, and there were many fine animals of all kinds present. The show of domestic manufactures, butter, cheese, maple sugar, fruits, vegetables, &c. was very fine. An address was delivered by Hon. Charles Hudson of Massachusetts. The premium for the best crop of *wheat,* was given to D. Dexter, Jr. Dover—42½ bushels per acre; and that for the best corn, 82 bushels per acre, to Martin Gates, Dummerston—for the 2d best, 70 bushels, to W. H. Williams, Newfane.

The *Addison County Fair* was held at Middlebury on the 1st Oct.—3000 were estimated to be present. The exhibition of stock, implements, household manufactures, &c. was highly gratifying, and an address "admirably adapted to the occasion, was delivered by Farmer Jennison, former governor of the state." We give the premiums on sheep at the request of a subscriber—for fine wool buck, 1st, to D. & G. Cutting, Shoreham—2d, to P. Ellithorp, Bridport—3d, to Mr. Northrop, Shoreham—4th, to T. Stickney, Shoreham. For best fine ewes—1st and 3d, to T. Stickney—2d, to D. & G. Cutting. For best five lambs—1st and 3d, to D. & G. Cutting—2d, to T. Stickney. Mr. Hinds of Brandon, presented for exhibition only, a Rambouillet ram, from the flock of Mr. Collins of Hartford, Ct., which, says the Northern Galaxy, was "a strongly constituted and beautiful specimen of the animal, and for fineness, combined with those qualities which render a fleece valuable, would well compare with any buck present."

Caledonia Ag. Society.—Mr. J. P. Fairbanks will please accept our thanks for a report of the exhibition of the Caledonia County Agricultural Society. The exhibition took place on the third of October. There was a good show of live stock in general, (with the exception of sheep,) and fine specimens of implements, dairy products, fruits, vegetables, and household fabrics.

FEEDING FOWLS

"A Subscriber" inquires "which is the best grain for feeding fowls, eggs being the object?"

Fowls require a variety of food. Grain of all kinds is good. *Wheat-screenings,* which can be had at all mills where wheat is ground, constitute a cheap and good feed for fowls. Buckwheat, barley, oats and Indian corn, should also be given occasionally. They should also have animal food. This may be supplied from the offals of slaughter-houses. If they are kept confined, they should have occasionally some cabbages cut up and given them. Potatoes and turneps will also be found useful.

"Two or three spoonsful of strong ley, made of oak ashes, and mixed with molasses, are recommended as a positive cure for croup."

TAKE CARE OF YOUR WOODLANDS.

There are very few things in which farmers in general exhibit such gross waste and want of forethought, as in their treatment of their woodlands. Dependent as the great majority must always be on these for fuel; diminishing rapidly as they must be in our climate annually; a large proportion timbered with trees that do not readily shoot up, and will not grow again without some protection; we still see the noble trees of our original forests as carelessly and as uselessly felled as though they were not the growth of centuries, and like Jonah's gourd would spring up again in a night. In the management of our woodlands some things are deserving of notice, that are too generally entirely overlooked.

The first thing, and it is an indispensable one, is, that the woodlands should be well fenced. We can never have a growth of young timber, particularly on lands originally covered with beech and maple and their kindred trees, unless this is done. It is true thousands of young trees will germinate, but so fond are cattle and sheep of their young foliage, that none to which these animals can have access will be permitted to grow. It is only after a thick growth of underwood, sufficiently tall to be beyond the reach of cattle, has been secured, that any animal should be admitted to the wood lots. We have seen a beautiful wood lot on which many thousands of thrifty young trees from three to five feet in height were growing, reduced in a year or two to the condition of an open wood, and the young growth entirely destroyed, by being carelessly thrown into a cattle range; and there is scarcely any wood lot, however destitute of young trees it may now be, that will not be covered with them in a short time if kept safe from the intrusions of animals.

The second thing to be remembered is, never to cut a tree needlessly. There are many who when they want a piece of timber, no matter how small it may be, instead of first seeing whether the want cannot be supplied from some already fallen, or timber already on hand, take their axe and improvidently prostrate any tree they can make subserve their present purpose, without reference to future value or use. Never fell a tree until you have ascertained its value for general purposes, for fuel, and not till you have found it is absolutely necessary.

Another thing not to be forgotten in the treatment of woodlands is, always to select those trees which have arrived at maturity, are the slowest in their growth, or have begun to decay. In a thrifty woodland, the greatest amount of growth, is usually with the younger timber; for though there will be some large trees that will increase as fast as smaller ones (and consequently give a much greater annual increase of wood from their greater diameter) yet there will also be many with no perceptible growth, or on which the process of decay has actually commenced. Such are the trees that should be selected for timber or fuel; and a double advantage will result from this course, thrifty timber will be saved, and the younger growth benefitted by more ample exposure to the sun and air.

It will be found of essential service in the preservation of woodlands, and in increasing their value, to keep all vacancies that may occur, either naturally, or by the falling of trees, filled by transplanting. We know of some farmers who keep a nursery of locust for the express purpose of increasing the value of their wood lots by transplanting this excellent timber tree wherever an opening offers. Others use those kinds of young trees which are readiest at command, or to which the soil seems most congenial. The kind of tree transplanted is of comparatively little consequence, provided it is of sure and quick growth, and is fit when grown for either timber or for fuel. By attention to the points we have here indicated, the value of our wood lots might not only be greatly increased, but the scarcity of wood with which so many of our farmers are already severely threatened, be averted.

Horticultural and Floral Exhibition.—The exhibition of the Horticultural and Floricultural Society of Columbia county, N. Y., took place at Hudson on the 20th September. A beautiful, interesting, and instructive address was delivered on the occasion by Mr. J. S. Gould, of Stockport. This Society, we are glad to learn, is in a prosperous condition, and will, it is hoped, be the means of extending a correct taste, and judicious management in the culture of fruits and flowers.

AGRICULTURAL EXHIBITIONS.

The various Agricultural Societies of the country, have generally held their exhibitions during the two last months. We have received accounts from the following county societies in this state, viz: Erie, Ontario, Onondaga, Chautauque, Monroe, Madison, Oswego, Cayuga, Herkimer, Saratoga, Rensselaer, Columbia, and Dutchess, and also accounts from many societies in other states; but our limits only permit us to give a general notice. In most instances, the shows have been much more spiritedly attended this season, than for several previous seasons. In the New England states, so far as we have learned, this has been particularly the case. Nearly all the accounts from that quarter, inform us of the improvement in the character of their exhibitions. We regard this as good evidence of the advancement of agricultural improvement. We believe the agricultural societies and agricultural papers, have already been the means of greatly improving the husbandry of the country, and of largely augmenting the products of the field and garden. An intelligent gentleman, the Rev. Morrill Allen, of the county of Plymouth, Mass., observed to us in conversation, the other day, that he felt confident the agriculture of that county, though the soil was generally not of the best quality naturally, and had been considered by many as worn out years ago, had been, within the last fifteen years, improved from twenty to fifty per cent. To the interest created by the well-managed agricultural society of that county, we think is to be mainly attributed this improvement, and we doubt not that similar beneficial effects have followed and will continue to follow the organization and proper management of such societies everywhere.

PLANTING TREES.

Reader, have you not some vacant spot in your orchard, some nook in your garden, some unplanted road side, some unoccupied place in your yard where some trees might be planted to advantage? Look around and see if there is not room for some, or perhaps many, of the kinds useful for timber, or their fruit, or ornamental purposes. It is possible you attended to this matter fully last spring, but the chances are, that you will on examination, find room for more trees. If so, now is a very good time to supply the deficiency; not so good, perhaps, as the spring would have been, but too good to be allowed to pass without improvement. Trees may be transplanted at any time after the growth of the season is over, with perfect safety, and they may be removed at any time, if the fine roots are undisturbed, and during removal retain their hold on the earth. When trees are transplanted in the fall, it is necessary to guard against two dangers to which spring planted ones are not so much exposed. The first of these is, they are apt to become loose in the ground from the action of the winds, as the roots do not take hold of the soil as quickly in the fall as in the spring; and the second is, water is apt to settle in the holes dug, and expose the roots to the injurious action of stagnant water. To prevent the first, if the tree is small, a stake well set in the ground, to which the tree, wound with bass matting, cloth, or something to prevent rubbing, may be securely fastened. If large, and the roots spreading, three sticks placed in a triangular form around the stem, and well fastened down at each angle by wooden hooks driven into the ground, will usually keep the tree in its place. If the soil is tenacious, and there is danger of the holes, when the tree is put in them, becoming pits of stagnant water, drains must be made to them which will prevent the evil at once. Where a number of trees are to be set on such a soil, it will be much benefited by a thorough deep plowing, which will render the soil generally more pervious to water, and prevent its ready accumulation.

CONNECTICUT CATTLE.

Connecticut people have reason to congratulate themselves in many respects. They have done more to people the vast west, and we may add, to christianize and civilize it, than any other State in the Union; and wherever they go, they are apt to carry their industry, morality, and love of knowledge, things they acquire in their youth, with them. In other respects, too, Connecticut furnishes examples well worthy of imitation. She has some poor land, and some poor farmers, but she too has much excellent land, and many first rate farmers to till it; and these men have made the land of steady habits almost a model so far as regards agricultural pursuits. A person familiar with the condition of things there forty years since, and particularly with the agriculture of that period, can hardly realize the changes that have taken place for the better within that time. But we took up our pen to speak of Connecticut cattle, working cattle, for in no part of the United States can so many good working cattle be found in proportion to the population as in Connecticut. The other New-England States, to their honor be it spoken, are not far behind in this respect; would that we could say the same of New-York. These working cattle too, are not the refuse of their yards, worked because they are good for nothing else, but the major part of them will be found of a rich red, the Devons or their crosses, fine formed, lively animals, walking off like horses, and making the heart of the farmer glad to look at them. To show that we are not exaggerating matters, or allowing our fondness for fine cattle to bias our opinion, we give a few examples selected from the reports of the various Agricultural Societies of that State, for the year 1843, which are now before us.

New-Haven County Fair,.........	513	yokes.
Hartford County Fair,............	100	"
Union Ag. Society, 4 towns,.......	244	"
Bridgport, County Fair, ...	530	"
Danbury Fair,....................	350	"
Canton, 1 town,..................	130	"

Bridgport and Danbury are both in Fairfield county, so that at the fall exhibition of 1843, this county produced no less than 880 pairs of working cattle of the best kind. New-Haven, too, had on the ground 513 pairs; and there were other exhibitions that were not far behind in respect to numbers. Of one thing we may be certain, a population cannot be poor, which can produce as many cattle fit for tilling the soil, or for the butcher, as can Connecticut. Would not many of the other States, so far as the labor of animals is concerned, do well to take a lesson from that State in this respect? Would it not be well,if, in a large portion of New-York, certainly in all parts where wheat growing is not the principal business, cattle, such as may be counted by thousands in Connecticut, were substituted for the lean, worthless horses found on so many farms? For all common farm work, cattle are as good as horses; and after they are unfit for the cart or the plow, they may be converted into beef; while the horse, disabled by accident or by age, is given to the crows or the dung-hill.

DR. BEEKMAN'S ADDRESS.

Dr. Beekman will accept our thanks for a copy of his Address before the Dutchess County Agricultural Society, which we have read with much satisfaction, and did space allow, we should be pleased to transfer a larger portion of it to our columns. We give the following paragraph, as particularly worthy of attention, showing, at a glance, the great defect in our husbandry, and the means for its improvement:

"Depend upon it, the great defect of our farming is the scanty return which we make to the soil that we crop so closely; and when you complain of poor returns for your labor, at least in the quantity gathered, it is upon the principle that you are willing to work your horse but not to feed him. Until, therefore, we feed with a more liberal hand, we shall not be more liberally rewarded. If I compare our farming, however, with what it was twenty years ago, I see a decided improvement; better houses, better barns, better fences, better, that is cleaner fields, better crops, and stock essentially improved. With all these man improves. But there is a vast deal yet to be done, and we must not talk of good farming until we can in all things double, and in many treble our present product; for let me tell you the productive powers of the earth are almost illimitable."

THE AMERICAN INSTITUTE.

The Annual Fair of the Institute was opened at Niblo's Garden, New-York, on the 8th Oct. The exhibition of samples of our manufactures and arts, was extensive and creditable to the skill and ingenuity of our country. The Agricultural and Horticultural Departments, we thought were not quite equal to some former years. At the show of animals on the 16th and 17th, there were some good stock, though the number was small. Among the horses was the splendid imported Norman "Diligence," and two of his colts, from Mr. E. Harris of New-Jersey, and some fine horses from Mr. Long of Washington county. Among the cattle, we particularly noticed the fine bull "Marius," belonging to Mr. Oliver of Sing-Sing, imported from the herd of Earl Spencer, which attracted so much attention at Poughkeepsie, for his superior symmetry and excellence—a pair of beautiful Devons, and a superior Ayrshire cow, whose owners we could not ascertain. There were also some good Durhams exhibited. The number of sheep and swine was small, but included some fine animals of both kinds.

In the horticultural rooms were some fine specimens of fruits and vegetables. Among them were handsome and extensive collections of pears from Mr. Wilder of Boston, and Mr. Walker of Roxbury, and extra large grapes from Mr. Cushing's grapery at Watertown.

The Silk Convention, at which about 50 delegates attended, was held during the exhibition of the Institute. The Rev. J. R. Barbour delivered an address on the culture of silk. Mr. B. showed that the culture and manufacture of silk is perfectly practicable, in this country. That its production is rapidly increasing, and that there is no obstacle to prevent our supplying ourselves with this article from our own hands and labor, thus saving to the country $20,000,000, annually.

MADISON COUNTY FAIR.

The Fair of this County was held in Cazenovia on the 1st of October, was well attended, and accompanied with some very pleasant incidents. The party liberty poles were stripped of their partizan banners, and others more appropriate to the occasion, took their place—the whig pole bearing a plow with the motto, "Speed the Plow—it feeds all"—that of the liberty party, a gigantic arm, with an anvil and plane, intended as a welcome to the mechanics—and that of the hickory tree, a banner with a churn, sheaf of wheat, &c. The ladies of Cazenovia presented the Society with a beautiful banner of rich blue silk, seven feet by five, painted by W. H. Burr of Syracuse. "On one side it bears," says the Madison Co. Eagle, "the picture of a stout mower who has just paused in the middle of a swarth to whet his scythe, while on the back ground appears a wagon loading with hay, and the house and barns of the farmer. At the foot of a tree close by, lie his coat and jug of *cold water* which are watched by his dog. On the other side is a winter scene, in-doors. In a comfortable kitchen, the farmer's daughter is at work at her spinning-wheel, while another female is busy in the 'buttery,' at the other side of the room. The fire burns briskly in the chimney, and the mantlepiece above is graced with the almanac, watch, and candle-sticks which are usually to be found in that position."

To make good pickled Pork, simply pack the side-pieces in a barrel or cask, with plenty of salt on all sides of each piece, and when full, roll it to the pump, and pump in water till you see it cease to sink or to moisten the pork on the top of the barrel, then lay a flat stone as large as the vessel, to keep the pork always under the pickle: cover the cask, to exclude flies.—*West. Farmer*

Foreign Correspondence.

MR. NORTON'S LETTERS—No. IV.

[The following letter did not reach us till after our last number had gone to press.—Ed.]

Lab. of Ag. Chemistry Association,
Edinburgh, Aug. 22, 1844.

Mr. L. Tucker—You have probably received papers containing accounts of the great annual show of the Highland Society, held this year in Glasgow; I will therefore not attempt any description of the exhibition itself, but will merely say that the show of animals and implements, was on a magnificent and immense scale, and the number was perfectly bewildering. A week at least would have been necessary in order deliberately to view every thing.

There were, however, some meetings incidental to the occasion, which were specially interesting to me, and of which I will endeavor to give a brief report.

First, I would notice an Education meeting. Arrangements had been made by which five boys, from the Lanne Agricultural School near Belfast, in Ireland, were present, with their teacher, Dr. Fitzpatrick, from Lanne, Mr. Skilling, from Dublin, Sir Robert Bateson from Templemoyle, and other gentlemen interested in the cause of Agricultural instruction, were also present. The boys were from 14 to 16 years old, and had been in the agricultural class two years. Prof. Johnston stated that by this meeting it was hoped that light might be thrown upon two points. 1. Is it possible to give boys instruction in agriculture, practical and scientific, that will be of use to them in after life. 2. Can this be done without interfering with other studies. These questions were both most distinctly answered in the affirmative by numerous gentlemen present, connected with agricultural schools in Ireland and England. The boys before mentioned were finally placed upon the platform, and with a view to answering the second inquiry were questioned in geography, grammar and arithmetic, by Mr. Gibson, inspector of schools. The examination was a somewhat severe one, especially upon grammar and geography, yet notwithstanding the embarrassments and novelty of their situation they appeared admirably. I think that some one of them answered every question. They were then examined upon various points in chemistry connected with agriculture, by Prof. Johnston, and lastly, upon practical farming, by various other gentlemen. Their answers showed not only that they had learned by memory, but that they had also reflected. Frequent and irrepressible bursts of applause interrupted the examination, and the most sceptical were convinced. These boys devote one hour each day to scientific and practical agriculture, and once in the week they are questioned upon the studies of the preceding five days. An enthusiasm was aroused by this exhibition which will hardly expend itself in mere words. A resolution was passed "that it was the opinion of the meeting that agricultural instruction should be introduced into the schools of Scotland." A large committee of influential and distinguished gentlemen was appointed to deliberately consider the subject. I may here mention that Mr. Skilling, superintendent and teacher in the Normal farm school near Dublin, gave most ample testimony in favor of Prof. Johnston's works. They are introduced into all the Irish schools, and their importance impressed upon every teacher. The Catechism was written expressly for schools, and has been found of signal benefit.

A most excellent feature of this Show was the introduction of public breakfasts, at which certain questions of interest to the farmer were discussed. The subjects were fixed and made public before the meeting, so that gentlemen came prepared with facts and arguments. I was exceedingly interested at the last one. The subject was "the disease of potatoes." The discussion was most animated, and lasted more than two hours after the active business of the meal was over. A large number of gentlemen spoke, and almost every one brought out new facts and new views. All agreed that the evil was wide spread and increasing. Each person supposed to know any thing of the subject, was in turn called upon to give particular statements both as to his own experience and that of his district, his views of the cause and the remedy. Mr. Alexander of Southbar, a very distinguished farmer, attributed much of the disease to improper stowage of the potatoes during the winter; to placing them in large masses so that they heated and lost much of their vitality. He had never known a failure except from improper treatment. Mr. Fleming of Barochan, an equally eminent authority, said that the less ripe the potatoe when dug, the less likely to fail. After raising several thousand varieties from *seed*, he has *never* produced a healthy kind. For several years he has dressed his potatoes with certain saline substances, such as sulphate of magnesia, nitrate of soda, &c. &c.; all those so treated, have succeeded admirably. Mr. Anderson, a manager of large estates in Ireland, laid much stress upon the thorough draining, subsoiling and pulverization of the soil. He digs his potatoes before they are ripe, selects the most perfect tubers and buries them in shallow, narrow pits, from two feet to thirty inches wide, heaping the earth as high as possible. There they remain until the planting season arrives; the drills are then opened, the manure placed, the potatoes taken out, planted and covered within half an hour; by following this course, he has no disease. Several speakers mentioned the fact that potatoes which had lain exposed to the sun until they became green, make the best seed. This sketch will give an idea of the way in which these breakfasts are conducted. They ought to be accompaniments of every agricultural meeting. In the present instance, practical men from all parts of the country came prepared to give their views upon a certain subject, and the result was such an amount of information and of facts as could have been in no other way so easily collected. Each farmer went home with a large stock of suggestions and increase of knowledge, whereby to conduct new and more intelligent experiments. After a few such conversations, they will undoubtedly be able to devise certain means for the arrest of this formidable disease. As with this subject, so with every other, much light would be accumulated, were practical men freely to exchange their facts and theories. If those interested in agriculture could be induced to enlist with spirit in one such conversation, they would be most amply repaid; and judging from my own experience, look forward with pleasure to future opportunities of a like nature. I am, very truly yours,

John P. Norton.

FOREIGN INTELLIGENCE.

By the last steamer at Boston, we have received our regular files of foreign periodicals, including the new Part of the Journal of the Royal Ag. Society—the Journal of the Highland Society for Oct.—the Farmer's Magazine, New Farmer's Journal, Mark Lane Express, Gardener's Chronicle and Ag. Gazette, &c. &c.

The Crops.—The English papers inform us that favorable weather has enabled the farmers to secure their grain-crops in good order. The yield of wheat is pronounced a good one. The Mark Lane Express says,—"Taking this year's produce of the grain crops, from one end of the country to the other, we maintain, and we think upon the best authority, that it has never been exceeded, though it might have been equalled in quality in any previous year." * * * "It is admitted on all hands, though of course partial deficiencies are to be met with, that the yield of wheat this year, for England, is a very large one; considerably above an average of years." Oats and barley are not so abundant, and some importations will be required to supply the deficiency From Quebec and Montreal 370,000 barrels of flour have been sent to England this season. Last year there were sent 180,000. With American provisions the markets are well supplied. The quality being good, a fair demand has sprung up, and prices have slightly improved.

A cargo of American hay has been received at Liverpool. It was not very well liked—being pronounced coarse, and not well cured.

Hops. Owing to the generally light crop in most districts the present year, and the small quantity of old hops on hand, the prices of hops are expected to be higher this year than for some time past. Prices are given as (according to quality) ranging from 6*l.* 8*s.* to 10*l.* 10*s.* per cwt.

Show of the Highland Society at Glasgow.—This exhibition took place in August. The entries of stock were larger than on any previous occasion. The number of lots were 1,404, amongst which were 222 Ayrshire cattle, 55 West Highland cattle, 160 horses, 117 sheep, 184 lots of butter, 83 lots of cheese, and 176 implements.

Bakewell Cow.—It is sometimes stated that the *Dishley* or Bakewell variety of Long-Horn cattle are extinct. It seems it is not so. A late English paper states His Royal Highness Prince Albert, received a prize of ten sovereigns and a silver medal, at the last exhibition of the Royal Agricultural Society of Ireland, "for a cow of the breed of the late Robert Bakewell, of Warwickshire."

Sales of Stock in England and Scotland.—A sale of Angus polled, or hornless cattle, lately took place in Scotland. Cows brought from $100 to $125. Two-year old heifers nearly $100 each; yearling heifers $80, and calves $50 to $60. They belonged to Mr. Fullerton, of Angus-shire.

Several sales of Short Horns have lately taken place. The sale of Mr. Jonas Whitaker, of Burley, was well attended, and good prices were obtained. The bull Buchan Hero, which obtained the first prize at the Highland Agricultural Show two years ago, was knocked down for 350 guineas to Sir Charles Tempest. The Earl of Buchan, a yearling bull by Buchan Hero, fetched 200*l.* He was bought for the King of the French. The cows and heifers varied in price from 150*l* to 25*l.* The stock, consisting of 79 bulls, cows, heifers, &c., were shown in excellent condition; and the prices they realized afford sufficient proof of the estimation they held in public opinion. The first 33 lots (cows) made 1,452*l*: the heifers and heifer calves, 1,531*l* 19*s*; and the bulls, 1,114*l*; in all, 4,098*l* 3*s*—or an average of 51*l* 17*s* each.

At Mr. Yorke's sale at Thrapstone, the whole herd of cows, heifers, and heifer-calves, averaged nearly 35*l* each, and the young bulls 27*l* each.

Sheep.—At a late sale of Cheviot rams belonging to the Messrs. Aitchison, animals brought from 4*l* to 14*l* per head.

At two sales of Leicesters, Mr. Bentley's and Mr. Watkins', the average prices obtained were 11*l* to 12*l* each.

Mr. Bryant's South Downs, 2,000 sheep and 400 lambs brought, at auction, 3,600*l.*

At the sale of Mr. J Elman's South Downs, the prices obtained for ewes were from 30*s* to 5*l.*

A ram exhibited at the ram-show of Jno. Kirkham, Esq., of Hagnaby, measured in girth 6 feet 8½ inches, and in length 5 feet 4 inches. Some of the yearlings weighed 40 lbs. per quarter.

Her Majesty's Aviary at Windsor.—Interesting Fact to Naturalists.—The following singular and rare (if not unique) occurrence has just taken place at the Royal aviary in the Home Park, at Windsor. It having been deemed advisable by Mr. Walters, the superintendent of her Majesty's aviaary, in order to improve the breed of the genuine Dorking fowl, that it should be crossed with that of the Cochin China fowl, the necessary arrangements were made for that purpose. A Dorking hen, which had roosted for some time past with the fowls from China, has recently been in the habit of laying twice, and sometimes thrice a week, eggs containing double or two distinct yolks. Mr. Walters, determining to try the experiment of attempting to hatch one of these double yolked eggs, placed it, with several other eggs, under the hen. The result was that two chickens were produced from this single egg; one is a cock bird of the pure Cochin China breed, and the other is a hen chick of the Dorking species, both of which are now five days old and in good health. This is a circumstance, as we are informed, unprecedented in the annals of natural history.

Urine.—It is calculated that a cow produces 15,000 lbs. of urine per year, which by putrefaction in the tanks without mixing with water, loses 162 lbs. of ammonia; this might be converted into sulphate of ammonia, by adding 373 lbs. of sulphuric acid at 12*s.* per cwt., and would produce 4½ cwt. of sulphate of ammonia worth 25*s.* per cwt., equal to 5*l.* 12*s.* per annum.

Preservation of Iron.—As iron enters so entensively into the constuction of nearly all the implements of agriculture, as well as almost every tool used in the arts, the preservation of the metal from the injurious effects of rust, or corrosion in water, has for a long time received the attention of scientific and practical men. It was found by experience, that the ordinary paints and varnishes, gave only a temporary preservation, and when once the paint began to decay, it assisted rather than retarded the progress of decay. In the 10th volume of the Reports of the British Association, it is stated that by the direction of the Association, Dr. Mallett of Dublin, has superintended a series of experiments, in which every kind of paint, oil, and varnish, was applied to every kind of iron, immersed in various kinds of running water, for two years, the results of which prove that coal tar boiled, and laid on the iron while hot, has a very decided advantage over all other preparations. This discovery is of much consequence, as iron vessels are so rapidly and extensively coming into use.

Disease in Cattle.—There is at present a deadly disorder raging among the cattle, which carries them off in a very short time; nor is this confined to a particular district—it appears to be spreading in every direction. We can state, from good authority, that a farmer in the vicinity of Glammis lately sold two cattle to a dealer, who paid for them, and was to remove them within a given time. By the time he came to lift them, they were both dead. Three of the same farmer's cattle, and two of his calves, died also. We have heard of a farmer in another quarter, who, in the course of nine nights, lost nine of his cattle; and, within the town, some of the cow-feeders have sustained heavy losses.—*Perthshire Constitutional.*

STATE FAIR—SUPPLEMENTARY NOTICES.

In our last, we spoke of a horse-rake with iron teeth, and having lost the card were unable to give correctly the name of the manufacturer. We were under the impression that it was made by Wm. B. Stoddard, Cayuga county. We find we were mistaken. This rake was patented by David Dewey, and is now manufactured by Z. Dewey, East Poultney, Vermont. It is called the "*Patent Spring-tooth Horse Rake*"—has been in use five or six years, and is well recommended by those who have used it.

Clover Machine.—A machine for getting out clover seed, exhibited by H. Baldwin, of Washington, Litchfield county, Connecticut; appears to be excellent, is well recommended by those who have tried it, and received the first premium of the American Institute, in 1840.

Coal Tar.—Some bricks coated with this substance, were exhibited. It is said to be the cheapest and best black paint that can be used for out buildings, fences, &c. Bricks soaked in it are said to be impervious to water. It is for sale at $2.50 per barrel, by Chester Childs, 139 Maiden-lane, New-York.

Imperial and Potatoe Oats—the former weighing 42 pounds, and the latter 40 pounds to the bushel, were presented by George Nesbitt, Stamford, Delaware co.

Ayrshire Cow.—Mr. Ellison, of Newburgh, exhibited, a superior Ayrshire Cow, which took the first premium. We had not the pleasure of seeing her, or she would have been noticed before.

Egyptian Corn, Wheat, &c.—Mr. L. Durand, of Derby, Ct., exhibited specimens of Egyptian corn, Egyptian wheat, and Durand corn.

Social Meetings.—For several evenings during the exhibition, social parties were held at the residence of Gen. Davies, whose elegant mansion was most cordially opened for that purpose, and an opportunity thus furnished for forming acquaintances, and enjoying the most agreeable social intercourse.

CONDENSED COMMUNICATIONS.

Vineyard and Nursery at Brinkleyville, N. C.—We have a long communication from the esteemed Sidney Weller, P. M., at Brinkleyville, detailing his experience in the growth of fruit trees and vines, at the South, in which he states that he has for fourteen years, as an incidental business, cultivated the vine—at first, with but poor success, from want of experience and adopting foreign vines and foreign modes of culture—but latterly, having adopted native vines and an "American system" of culture, he has succeeded to his entire satisfaction. He has found the following varieties of the grape to succeed well. The Scuppernong, (ranks first south of lat. 37½ deg. but of no superior excellence north of that,) Norton's Virginia Seedling, good every where so far as he has heard, Weller's Halifax, Vine Arbor, &c. The Catawba, Isabella, Herbemont's Madeira, &c., have not done as well with him. The Elsinburgh proves to be a delicious fruit, much admired on account of its fine flavor and freedom from pulp. He has not tested it for wine. From several of his Scuppernong vines, he has made from half a barrel to a barrel each of wine. One of Norton's Seedlings, five years in culture, produced 2¾ bushels of grapes and 8 gallons juice. He says 800 gallons wine per acre is considered a capital yield in Europe, but from his experience, he thinks 2,000 gallons per acre, by good culture, can be realized in North Carolina. His culture consists in keeping the ground clear of grass and weeds, the year round, so that all the leaves and litter from the vines can be incorporated with the soil by scarifying it when needful with a harrow or cultivator. In some instances however, instead of adopting this course, he covers the ground several inches deep with pine leaves or other litter, which, renewed once in two years, keeps down all extraneous growth, and saves the labor of annually working the ground. After a vineyard is well under way, no other manure is necessary. He has made this season, 15 barrels of wine, and is just commencing on his Scuppernong vines, which constitute his principal crop, and from which he expects to increase the amount to forty barrels.

Fruit Trees.—Mr. Weller says that he finds some varieties of superior excellence at the north, of no profit with him. The Newtown pippin, (and other northern winter fruit,) is subject to rotting on the tree, and ripens too early for winter keeping. The celebrated winter Bellflower is a fall apple with him. The Sine-qua-non apple, the Bergamot pear, the red Magdalene peach, and the Bolmar or Washington plum, have proved as good with him as at the north. For winter apples, those peculiar to the south only will keep well, such as the Salmon, Gully, and Haul, Barrow, and other seedlings. As a summer fruit with him, he says there is none superior to the common southern horse apple. He thinks November the best season for transplanting fruit trees at the south.

Improved Farming in Virginia.—Mr. H. R. Robey, near Fredericksburg, Va., gives us the following favorable account of the effect of agricultural papers in improving the husbandry of his neighborhood: "When I commenced farming, I determined to try the new system of husbandry, because I saw the old plan would not do; the farmers were all going backwards, or getting poorer every year; my new neighbors laughed at me, when they saw me occupying so much of my time in hauling mud and sods from the swamps to put in my manure pile, and asked where I got that notion from. My reply was, from the Cultivator. They laughed still more, and called me the book farmer—said I would soon find out my folly, and go back to the good old custom, as they call it. Many of those men have acknowledged since, that I have been pursuing the right plan. I have now eight barrels of corn growing, where six years ago one barrel could not be grown; and all my information has been derived from agricultural papers. Some of my neighbors, for two or three years past, have been taking the Cultivator, and you can perceive an improvement upon their farms already. They are now not content to put up with the bare necessaries of life. A spirit of improvement seems to have taken hold of them; they begin to cultivate improved varieties of fruit for market and for their families; thus adding profit and pleasure, where neither could be found before they began to read agricultural papers."

Black Sea Wheat.—In our March number, page 75, we published a communication from Clark Rich, Esq. on the subject of Black-sea wheat. We lately received another article from the same gentleman, in which he informs us that this kind of wheat continues to maintain its superiority over other kinds, for that section of country. It is a spring-wheat. Its distinguishing excellencies are, hardiness, freedom from rust and other diseases, and generally producing a better yield, especially on unfavorable soils and in unfavorable seasons, than other varieties. There is a white, and a red-chaff kind. The white-chaff is said to yield as well, but the millers prefer the red-chaff, as giving better flour. It is said not to make as nice looking flour as good Tea-wheat, or as some good kinds of winter-wheat; but since the millers have found how to grind it, the flour is well liked. This wheat has been much disseminated for a few years past, and wherever spring-wheat is cultivated, has been much esteemed. Mr. Rich says, "it is believed that this wheat will yield better than rye, even where rye has heretofore been considered the safest crop." Mr. Rich informs us that prime Black-sea wheat can be delivered at the landing, Shoreham, Vt., at $1.12 per bushel—and procured of the farmers for $1.00 per bushel.

Disease in the Stomach of Cattle.—Mr. J. Devereux, of Raleigh, North Carolina, wishes some information in regard to a disease by which he lately lost a valuable Devon bull. A *post mortem* examination showed the third stomach or manifolds, "crowded with food until it was as hard as a pressed cotton-bale." In relation to diseases of this organ, Mr. Youatt says—"it will always be proper to bleed, in order to diminish any existing fever, or to prevent the occurrence of that which continued disease of this important stomach would be likely to produce. To this should follow a dose of physic, in order to evacuate the intestines beyond the place of obstruction, and by its action on them, possibly to recall this viscus also to the discharge of its healthy function. The Epsom salts, with half the usual quantity of ginger, will form the best purgative; and it should be administered either by means of a small horn, or the pipe of the stomach-pump introduced half way down the gullet, and the liquid very slowly pumped in. By this cautious method of proceeding, the pillars of the æsophagean canal will probably not be forced open, and the liquid will flow on through the passage still partially open at the bottom of the manyplus, and thence into the abomasum."

It may not be improper to remark that the manifold, as it is called, is the *third* stomach, and not, as our correspondent supposes, the *first* stomach. We are unable to inform Mr. Devereux the probable price of a Devon bull-calf. In answer to the inquiry for the names of breeders of Devon cattle, we would mention Messrs. George Patterson, and John P. E. Stanley, of Maryland, Mr. Wm. Garbutt, of Wheatland, and Mr. L. F. Allen, of Buffalo, N. Y., and Mr. Hurlburt of Connecticut.

Glandrrs.—Mr. C. B. Clark, of Monroe, Conn., wishes some more particular information in relation to the cure of glanders by tobacco, as mentioned by Mr. J. B. Cook, in our July number. Mr. Clark says, "if your correspondent would state how much of the decoction of tobacco was given at a dose, the manner of giving it, and the subsequent treatment, a subscriber would be amply repaid for the expense of the Cultivator, especially if a cure was effected."

Larches.—In relation to our inquiry whether larch, or tamarack trees will flourish on dry soils, "A Constant Reader," at Burlington, Vt., informs us that he has often seen them "in fine condition on high and dry localities, the soil of which was pure sand."

Bone Mills.—A correspondent wishes to obtain a machine for grinding or crushing bones. We shall be greatly obliged if any of our friends can inform us where one can be procured—its price, and the power necessary to drive it.

LAMENESS OF A HORSE—SPLINTS.

Mr. James M. Tower of Waterville, asks for information relative to what are called splints in horses. We handed his letter to Dr. Wright, veterinary surgeon of this city, who has favored us with the following:

Mr. Tucker—In answer to your correspondent, Mr. Mr. Tower, I would request him to examine the bones of the fore leg of a horse. He will there find, placed immediately behind the large metacarpal or shank bone, two smaller ones, which adhere to the shank bone by a cartilago-ligamentus substance. These two bones form a part of the knee joint, and give firmness, support and elasticity to the limb. This adhesive substance is liable to take inflammation from concussion or straining the part; it then becomes absorbed, and bony matter is thrown out between the bones, which will sometimes grow to the size of half a hen's egg. These osseous tumors are called splints. In slight cases the treatment is simple—slight blisters, repeated, or the iodine ointment, mixed equal parts with Ung. Hydr.; or the Ung. Hydrarge, 2 oz. with one drachm Hiodrate of Potass, rubbed on the part. The last operation for this disease is called subcutaneous periostiotomy, but is seldom necessary.

Geo. Wright, M. R. V. C.

We add the following from Youatt's Treatise on the Horse:

"When the splint is forming, the horse is frequently lame. The periosteum or membrane covering the bone is painfully stretched; but when this membrane has accommodated itself to the tumor that extended it, the lameness subsides and altogether disappears, unless the splint be in a situation in which it interferes with the action of some tendon or ligament, or in the immediate neighborhood of a joint. Pressing upon a ligament or tendon, it may cause inflammation of those substances; or, being close to a joint, it may interfere with its action. Splints, then, do not necessarily cause unsoundness, and may not lessen in the slightest degree the action or value of the horse. All depends on their situation.

"The treatment of splints, if it be worth while to meddle with them, is exceedingly simple. The hair should be closely shaved off round the tumor; a little strong mercurial ointment rubbed in for two days; and this should be followed by an active blister. If the splint be of recent formation, it will usually yield to this, or to a second blister. Should it resist these applications, it can rarely be advisable to cauterize the part, unless the tumor interferes materially with the action of the suspensory ligament; for it not unfrequently happens, that, although the splint may have apparently resisted this treatment, it will afterwards, and at no great distance of time, begin rapidly to lessen, and quite disappear."

RENSSELAER INSTITUTE.

We would call attention to the advertisement of the Rensselaer Institute, which will be found in this number. Perhaps no school in the country has enjoyed a more extensive or deserved reputation than this, for imparting a truly valuable course of instruction. Among those eminent citizens of this and other states, who have, within a few years, by the practical application of the principles of science, rendered important benefits to the country, none have been more distinguished than several of the graduates of this institution.

The following extract from an article written by a former graduate of this school, and now well known and esteemed as a member of the geological corps of the state of New-York, shows the estimation in which this school is held by those who are competent to judge of its merits. Speaking of the advantages of the course of instruction here pursued, he says—

"In regard to the success of the mode of instruction practiced in the Rensselaer school, the writer can speak from the experience of five years in that institution as pupil and teacher—believing it to be the most successful method of imparting instruction yet devised, and were the plan so extended as to bring within its scope all the subjects usually taught in our colleges and academies as well as the natural sciences and practical mathematics, I am confident that a student would acquire at least twice the amount of knowledge in the same time that he now usually devotes. The acquirement is not alone the object attained, for when he has obtained knowledge, he can make use of it, for he learns to impart knowledge at the same time that he is acquiring.

"The student is made at once a teacher; his recitation is never conducted by question and answer, but it consists of an extemporaneous dissertation or lecture, to the teacher present and his associate pupils. He has previously studied the subject, with experiments, specimens, books, and the aid of his teacher; he has made it his own as it were, so far as time and means will permit, and in his lecture, he gives his own language to express his ideas and the amount of knowledge he has acquired. The pupil is thus led to feel an interest in the subject, and it at once acquires an importance in his view, which mere study and recitation can never give it. He feels his deficiencies when he is to instruct others, and he is ambitious to supply them."

Through the liberality of the Corporation and citizens of Troy in furnishing them with buildings and grounds, and of the family of the late Hon. Stephen Van Rensselaer in endowing the Institute, the Trustees have been enabled, notwithstanding the practical, and for that reason more expensive, nature of the pursued studies, to reduce the fees for tuition very considerably, thus rendering the advantages of the Institute more easily available to all.

RENSSELAER COUNTY FAIR.

The exhibition of this society took place at Troy on the 2d and 3d days of October. The display of live stock was not, we think, considered equal to that of some former years. There were some good animals shown—particularly the *Cattle* of Mr. Vail—several of which, viz. "Meteor," "Symmetry," and "Victoria," received premiums at the State Fair at Poughkeepsie. There was also an imported Durham cow called "Splendor," said to be owned by Mrs. Sampson, of Brunswick. Though low in flesh, her form is generally good, and she is represented as a superior milker. Isaac Welch, Brunswick, offered a good *grade* heifer two years old, and there was a pair of very pretty native heifers (though they might be taken for half Devons) shown by Abm. Nash, Troy. Of oxen, several pairs were noticed, belonging to Pliny Griswold, East Nassau, Roswell G. Pierce, and Joshua B. Mason, Stephentown. Of *Sheep*, there were some good-bodied, medium wooled Merinoes, shown by Nathan Brownell—the ewes having yielded, as was stated by the owner, from 5 to 6 lbs. washed wool per head last season. Two bucks by B. Ketchum, Pittstown, sheared last season, the one five, the other eight pounds. The buck "Consul," purchased of Mr. Sanford, of Orwell, Vermont, by Mr. Martin Springer, was on the ground. A superior Saxon buck from the Grove stock, one year old, was shown by Myron Rogers, of Hoosick—also a very superior Merino buck lamb, 5 months old, purchased of Mr. Blakeslee of Connecticut, by R. H. Streeter, of Berlin. Mr. Streeter had also a good Cotswold buck, which had 12 lbs. wool at last shearing, and a Lincolnshire buck, the latter purchased of Mr. Clift of Putnam county. There were five good ewes, apparently a cross of the Cotswold and South Down, presented by Wynant Younghans, Sand-Lake. Mr. Kip and Mr. Greene, of Pittstown, showed good Bakewell bucks. Of *Swine*, there were a few good Berkshire, and a white boar belonging to Edward Pearl, Troy. The show of *manufactured articles* was good, and highly creditable to the county. We noticed many good Agricultural and Horticultural *Implements*, from Messrs. Mowry & Vail, Troy; and among them several sizes of Langdon's plow cultivators. Of *Household* manufactures, there was a very good display. Of *Fruits*, there were fine specimens of apples, pears, and grapes, from Geo. Vail, Troy, and John Filkins, Lansingburgh. Very superior samples of White Sweet-water, and Winne grapes, were presented by Miss Sally Gale, Troy. The Address was by Hon. R. D. Davis of Poughkeepsie.

FULL BLOOD MERINO SHEEP.

In our October number, we spoke of some sheep exhibited at Poughkeepsie, by Mr. Jacob N. Blakeslee, of Watertown, Litchfield county, Conn., and by Mr. Stephen Atwood of Woodbury, in the same county. We stated that these sheep were represented as being entirely of the blood imported by Col. Humphrey in 1802. This statement which was made without reference to some papers given us by Mr. Blakeslee, and which were then mislaid, was not quite correct, It is not claimed that the sheep are *entirely* descended from the Humphrey importation, as will be seen by the account furnished us by Mr. Blakeslee, which we give below.

In the April number of the Cultivator, we published a communication from the Hon. Wm. Jarvis, of Weathersfield, Vt., in which he expresses doubts whether there are any full blood Merinos in the country, excepting some which have been derived from his flock. That in this particular Mr. Jarvis was mistaken, will appear from the statements of Mr. Sanford in the September number. In reference to the communication of Mr. Jarvis, Mr. Blakeslee says—"He seems to doubt that there is any pure blooded Merino sheep in the country at the present time, but what are in his possession. The duty which I owe myself and my neighbors, requires me to give a description of some pure bloods, that are the offspring of some of the first that ever came into the United States, brought into the country by David Humphrey in 1802, which were a present to his wife by her father, as she was a Spanish lady. After a few years, two pairs of them were purchased by Daniel Bacon, of Woodbury, Litchfield county. They were kept in their pure state till 1811. There was then an importation of the Guadaloupe sheep by a company formed in Litchfield county; John De Forest, supercargo. They arrived at New-Haven, and were sold at auction, Jan. 17, 1811. There was one full blooded Escurial buck, which was purchased by Daniel Bacon at $275, and was crossed upon those sheep that came by the way of Mrs. Humphrey. He continued this cross till 1816 or 1817, when he sold his Escurial buck to William K. Lampson for $1,130. He kept his sheep pure till the introduction of Saxony sheep. He then sold the remainder of his flock to Daniel Martin. I began a flock of sheep in 1815, that were imported by Peck & Atwater, New-Haven. A part of them were the Negretti and a part Montarco. I let them run together till 1823. I then procured the use of a buck for three seasons, bred by Daniel Bacon from his Escurial buck. The average weight of the fleeces of the stock from this buck, was four pounds, and the wool brought me ten cents in a pound more than the original stock. In 1828 I purchased a buck that was raised by Daniel Bacon. From that time down to the present, I have kept that blood pure; this flock is now a cross of three sorts of Spanish sheep, and perfectly clear from native or Saxony blood. My farm is not a healthy farm for sheep, and of course they are a little under size. They are a full, round, handsome bodied sheep, with shortish legs and a very round neck. They have very heavy fleeces for their size. Their wool is a long staple, a great deal of crimp, and very compact at the outer end. They have generally wool about their face and on their legs down to their feet. After taking great pains to wash them, the average weight of their fleeces this season was three pounds and a half, and there are very few flocks of Saxony sheep any finer. Mr. Samuel Lawrence of Lowell, who has had this wool for four seasons past, has given his opinion that there is no Merino wool that compares with it. This improvement has been made by a cross of the different breeds. I am decidedly of the opinion that there is no full blood animal equal to a cross; the reason I give is that there is no perfect animal on the face of this earth: where an animal is imperfect, you can never remedy the defect by the use of an animal that has the same defect. The Saxony sheep are defective in the quantity of wool; in our cold climate the outer end becomes dead and destitute of felting properties. The Spanish breeds spoken of are free from both these defects, and wherever those bucks have been crossed upon high blood Saxons, there has been an addition of 8 to 24 ounces to each fleece, and whenever it has been through the process of stapling, it has brought at least 5 cents more on a pound. I have often heard the question asked, why new wool would not felt like wool that had lain a year. I believe if the wool growers had taken as much pains to improve upon the Merino as they have upon the Saxony, that question never would have been asked. Almost the whole of the fine goods that are now made are made from Saxony wool that has a dead end, very tender when new, and destitute of felting properties; after lying in the native oil one year it becomes so rotten that it wastes in the machinery before it comes to the felting process. As there is more native oil in the fine Merino wool, it has been the cause of some complaint by our manufacturers, that it wastes too much in cleansing. If they would weigh both kinds of wool in the fleece, and then weigh the goods when finished, they would find the Saxony wool would waste as much as the Merino."

Mr. Blakeslee's sheep are compact and symmetrical, answering the description given of the Gaudaloupe, which are said to have the most perfect form of any of the Merino varieties. (Library of Useful Knowledge—"Sheep," p. 156.)

THE ARTICHOKE.

Several trials which we have known made with this root, indicate that it is one of the most valuable for stock, which can be cultivated. A few years ago, a gentleman of our acquaintance planted a small patch of rich ground with them. The produce was at the rate of 1,200 bushels per acre. They were principally harvested by hogs, which were turned in and allowed to root them up as their appetite prompted. They gained well, with no other food, while the artichokes lasted. A great advantage of this root is, that it will lie in the ground without injury all winter.

Mr. Thomas Noble, of Massillon, gave us a brief account of a trial with artichokes, made by him the past season. In April, 1843, he planted two acres with this vegetable. The ground was of medium quality. The artichokes were planted in rows 2½ to 3 feet apart—using a little more seed than is commonly used in planting potatoes. As soon as the frost was out of the ground last spring, (1844,) the digging of them was begun and continued as the stock required. The produce of the two acres was 1500 bushels. They were fed principally to sheep, though some were given to cattle, horses and hogs. All animals ate them well, seeming to prefer them to turneps. While the sheep were being fed with them, they were pastured on growing wheat and clover. The shepherd thought the wheat and clover was sufficient for them, as there was a full "bite," and he accordingly discontinued the artichokes. The ewes "fell off" in their milk, and the lambs soon showed that they were not doing so well. The artichokes were again given, and they soon did as well as ever.

Mr. Noble also used the *tops* for fodder. He cut them in October, just before frost came, dried and housed them. They were fed to the stock in winter, and were evidently preferred to corn fodder.

Mr. N. is so well pleased with artichokes, that he is raising them this year on a larger scale. They require but little cultivation; it being only necessary to keep the ground clear of weeds till the artichokes get a good start.

Mr. T. M. Johnson of Greensboro', Alabama, lately informed us, that he is this year growing 30 acres of artichokes. He considers them the most profitable vegetable he can raise. In that climate they can be dug any time in the winter.

There are several varieties of artichokes, but that called the Jerusalem artichoke (Helianthus tuberosus) is considered best. From the fibres of the tops or stems, a cordage is sometimes manufactured in some parts of Europe.

Two tea-spoons full of finely powdered charcoal, (says the N. Y. Herald,) drank in a half tumbler of water, will, in less than fifteen minutes, give relief to the sick head-ache, when caused, as in most cases it is, by superabundance of acid on the stomach.

CATTLE SHOW AT WORCESTER.

We had the pleasure of attending the Cattle Show of the Massachusetts State Society for the Promotion of Agriculture, held at Worcester on the 9th and 10th of last month. The Fair of the Worcester County Ag. Society was held on the preceding day, and was, we were told, in every respect superior to that of the State Society. The premiums of the State Society being restricted to animals which had previously taken prizes at the County Shows, the competition was confined to a limited number, and no inducements were offered to the owners of other animals to bring them to the exhibition. It seemed to be the general opinion, so far as we could judge, that the restriction of prizes to premium cattle, ought to be abolished for the future.

There were some good bulls. The best were principally Durhams. Elias Ayres, of Barre, showed two, both bred by C. H. Hall, of Harlem, N. Y. One of them was purchased of Mr. Mabbett, at our late show at Poughkeepsie. He is lame, and in rather bad condition. The other is a good five year old bull, weighing upwards of 2,500 pounds. The Messrs. Lathrop of South Hadley, had a three year old bull on the ground, got by Yorkshireman belonging to Joseph Cope, of Chester Co., Pa., and bred by Mr. Bates, Kirkleavington, England. The dam of the Messrs. Lathrop's bull, was from Mr. F. Rotch's stock. The bull has some very good points, and he took the first premium. There was also a large bodied, well made Durham bull, which we understood was bred by Henry Watson, of Connecticut. John B. Burt, of Sheffield, Berkshire county, had a pretty four year old bull on the ground, "three-quarters Durham, and *one-quarter Holderness*." In symmetry and handling, he was equal to any bull on the ground. He was got by a bull imported by Mr. Hickock, of Harlem. We did not see a single good bull calf on the ground, and but one good heifer calf, and that was a cross of Col. Jaques' Cream-pot breed and the Ayrshire. She belonged to Henry Dodge, Sutton.

There was a fine cow presented for exhibition only, by Charles Allen, Worcester. She was half Durnam—a beautiful roan, and her appearance, both in respect to shape, thrift, and dairy properties, was very much superior to any other cow at the show.

Moses Ayres, New Braintree, showed a cow, which, on grass-feed only, gave from the 10th to the 20th of June, ten days, *twenty-five* pounds of butter, or 2½ pounds per day. She was also half Durham.

George Randall, of New Bedford, showed a bull and several cows and heifers of the Ayrshire breed, and one cow, a cross of the Ayrshire and Alderney. The cows have generally the appearance of good milkers—among them was a young cow, which we understood had been lately imported from Scotland, whose appearance was *very* fine. In the *forehand*, she was unexceptionably beautiful. Her head and eye were fine, her horns thin, waxy, and almost transparent; and her skin yellow and rich. Taking her altogether, she might be pronounced a very superior cow. There was a five year old Ayrshire bull on the ground, which Mr. J. P. Cushing, of Watertown, presented to the Worcester County Ag. Society. But we do not think either of the Ayrshire bulls here, were equal to the one sent from Canada to the Poughkeepsie Fair, by Mr. Archibald.

The sheep were few in number, and with the exception of two or three, of no particular excellence. There were several called *native*. They were large framed, raw-boned animals, not at all calculated to afford profit, either as fattening or wool bearing sheep.

A buck and ewe imported from Africa by Mr. Lowell, of Waltham, attracted attention as a curiosity. Their color is brown, or snuff color, and their wool long and very coarse and harsh. We do not see that they are recommended by any valuable qualities.

The show of *swine* was good—indeed, we think it was the best show of the kind we ever witnessed. We saw but one full blood Berkshire in the pens, and the cross-bred Berkshires were not numerous. The hogs of all ages from the State Asylum for the Insane, were superior. They are commonly called the "Hospital breed." They have often taken premiums here. The basis of this stock is the Bedford breed, brought to this State many years ago by the late Hon. Timothy Pickering. Their origin in this country was some pigs sent by the Duke of Bedford as a present to Gen. Washington. Dr. Oliver Fiske, late of Worcester, had them in great perfection for several years. We have bred this stock, and found them very profitable. Those which Dr. Woodward now has at the Hospital, seem to have been crossed with Mackay, which has given them more size, though they still retain the symmetry and principal characteristics of the original Bedfords. The hospital hogs weigh at 8 months old, about 250 lbs.—at 12 months old, 300 lbs—and at 18 months old, 400 to 500 lbs. Two breeding sows exhibited by Dr. Woodward, were the most perfect animals of their kind we ever saw. Martin R. Wheeler, Westborough, showed a sow and several fine young boars of this stock.

Mr. Stickney, of Boston, showed a boar and several sows of the Suffolk breed, just imported from England. They appear to be a very thrifty, thin-skinned breed. Their heads are not quite so good as those of some hogs, though Mr. Stickney informed us that some of this breed which he before imported, are quite perfect in this respect. They have very broad chests and wide backs.

There were some good specimens of fat cattle. A pair half Durham, 6 years old, weighing 5,210 lbs., belonging to John Marland, Andover, received the first premium. There were several fine medium sized red oxen exhibited. The fat cattle here, in point of symmetry and fineness of quality, were, we should say, generally superior to those at Poughkeepsie.

The *working* cattle were good, as a matter of *course*, though the number was less than might have been expected. The restrictive rule before mentioned, undoubtedly operated in this case. The discipline shown by nearly all the cattle in managing a loaded cart at a hill, was truly admirable. The oxen were less in size than we have before seen at the Mass. State Society's Shows at Brighton, and at the County Show in this place. The load, 40 cwt., was heavy enough for the weight of the cattle, they weighing from 2,300 to 2,900 lbs. the yoke. They took this load up a hill steadily and easily, carried it down again to the foot, and then backed it straight up the steepest part, a good distance. Their faculty of backing is remarkable. They put their bodies close to the tongue, to which they keep as closely as if they were tied there; hold up their heads, and throw their whole weight and strength backwards. The best teamsters make but little use of the whip, and speak to them only in a moderate tone of voice. The discipline of the cattle is commenced at a very early age—almost as soon as the calves are able to walk with a miniature yoke on their necks. The *ox-mind* at this early age, is peculiarly susceptible of *impressions*, and the animals consequently acquire a degree of knowledge perfectly astonishing to those who have only seen them *mauled* about with a club, or *strapped down* with a bean-pole, having seven or eight feet of green hide fastened to one end of it. Some of the cattle which are facetiously said to have *graduated* at the *ox-university* of Sutton, show a degree of intelligence which really seems greater than that possessed by some of the *drivers* of oxen in some sections of the country. Even the steers, from three years old down to six months old calves, showed as perfect discipline, and yielded as ready and prompt obedience to the word of their *commanders*, as most of our military companies. There was a pair of yearling steers exhibited here by Nathaniel Dodge, Sutton, which were superior to any we have ever before seen. Their weight was 2,290 pounds. Their form was almost unexceptionable, and they were so completely matched in color and other respects, even to the bend of the horns, that it was almost impossible to tell them apart; and the excellence of their discipline was as remarkable as their appearance in other respects. A little boy, *only eight years old*, whose name was Elijah R. Carpenter, (son of Simon Carpenter, of Charlton,) exhibited a pair of steer calves 6 months old. Mr. Carpenter assured the committee that this little boy had had the entire management of these steers. He drove them up and down the street, and made them perform the customary evolutions of oxen, with almost as much exactness as was shown by any other cattle.

In regard to the *trial of plows*, which we had expected would be one of the most interesting parts of the exhibition, there was much disappointment. Only two competitors appeared. Neither Messrs. Ruggles, Nourse & Mason, or Messrs. Prouty & Mears entered the lists at all. Consequently we had not the satisfaction which we had hoped to have, of seeing the celebrated *Eagle* and *Centre-draught* plows, tried in competition with each other.

A subsoil plow with a double flange, was offered by Charles Howard, Hingham, which was much admired. Working in the furrow, behind another plow, it pulverized the ground finely to the depth of ten inches.

The show of *implements* was really splendid. To witness this single department of the exhibition was worth a journey of hundreds of miles. Among the implements particularly worthy of notice, was a *butter-worker*, presented by Amherst Hawes, from the farm of Col. J. W. Lincoln, Worcester. It was a kind of brake. A marble slab placed on a table, with a slight declivity to let the buttermilk run off, formed the place for working the butter. A fluted roller, to which was attached a handle three or four feet long, fastened at the lower end to a swivel, constituted the power for working the butter, which was done by passing the roller backwards and forwards over it, applying as much pressure by means of the hand, as is required. In connection with this, was shown a *butter-stamp*, by C. E. Miles, Shrewsbury. A round hole, say 3 inches in diameter, was cut into a block of marble six or seven inches thick. The butter is put into this hole in any desired thickness, and the stamp then pressed on it. On withdrawing the stamp, the butter adheres to it, and is taken off, and the stamp used as before. There was an improved churn shown by E. F. Dixie, Worcester, and a vegetable cutter of superior construction by Thomas Wheeler, Leominster. Messrs. Ruggles, Nourse & Mason, showed *twenty-six* different patterns of plows, besides a multitude of other implements, none of which, however, were entered for premium.

The specimens of agricultural and horticultural products, were numerous and excellent. Among them a *seven yeurs* pumpkin, which beat Mrs. Vassar's shown at Poughkeepsie, by six pounds—the one at Worcester weighing 132 pounds. The horticultural exhibition, considering the lateness of the season, was very fine. The apples were excellent, and there was a very respectable show of the finest pears of the season, as well as grapes.

On Wednesday evening, a meeting was held at the Town-Hall in Worcester, at which the Hon. Josiah Quincy, Jr. presided. The company was much interested by remarks from Ex-Governor Lincoln, Gov. Briggs, Mr. Quincy, Mr. Johnson of the New-York delegation, and other gentlemen. At the close of the meeting, the members of the Mass. State Ag. Society, with the delegates from the county societies, and delegates from other States, accepted the invitation of Gov. Lincoln to attend an agricultural levee at his house, where a most splendid collation was provided.

On Thursday, the Society, with invited guests, had a public dinner, at which Ex-Governor Lincoln presided. Short speeches were made by various gentlemen, appropriate sentiments (drank only in *cold water*,) were given, and the awards of premiums announced by the chairmen of the several committees.

The agreeable social intercourse enjoyed among the people of Massachusetts during this exhibition, both at the public meetings, and at the dwellings of some of the most distinguished citizens, will be remembered with great satisfaction by those who had the pleasure of attending from other States.

Cooking Food for Swiee.—Dr. Lee, in an article on pork making in the last N. G. Farmer, says:—"From some experiments of my own, and considerable research into the published results of the experience of others, I am satisfied that ten bushels of boiled potatoes, thoroughly mixed with the pudding that can be made from three bushels of corn or peas, will make as much pork as twenty bushels of potatoes, and six bushels of corn or peas fed raw."

POWER OF SMELL IN INSECTS.

Every one is aware that in nearly every insect the sense of smell is remarkably acute. This seems to be necessary as a guide to their food; the more requisite as their range of vision, must, in most instances, from the nature of the case, be quite limited. Thus the bee discovers honey at a great distance, and makes her way to it with the greatest certainty. The bee-hunter avails himself of this acuteness of smell, and by exposing honey alone, or burning the comb to more rapidly extend the odor, discovers whether there are any bee-trees, or deposits of honey, in the vicinity. So the ant, that pest of the housewife, is almost sure to discover and lay under contribution the family stores of sweets, unless frequently looked to, or carefully guarded against. The flies, particularly the flesh fly, (*musca carnaria*,) furnish abundant proof of a liberal endowment of this sense, by the facility with which they discover any substances suitable for their food, or a place of deposit for their young. It is commonly said instinct is infallible; but that of the *musca carnaria* is proved to be at fault, when deceived by the carrion like smell of the mushroom, *phallus canis*, it deposits its egg upon it in the belief that it will provide suitable food for its young.

This power or acuteness of smell in insects may be used against them, or as a means of driving them from plants or places where they are numerous or troublesome; for it is well known that while they are attracted by some substances or odors, there are others extremely offensive to them, and which they will, if possible, avoid. Thus most of the essential oils of plants, or the materials that furnish them, are extremely disagreeable to most insects. Camphor, cammomile, tobacco, red cedar, black birch, sulphur, musk, &c., are among the materials offensive to many classes of insects, and may be used successfully against them. Thus the fumigation of plants, or the exposing them to the vapor of tobacco, will speedily expel the green fly or aphides, or destroy them; and the fumes of sulphur will operate as effectually on the red spider, an insect at times very troublesome to the gardener. Professors Henslow and Lindley, both affirm, that the vapor of oil of turpentine is a sudden and total destruction to the wasp which produces so much trouble and mischief in a green house, or conservatory. Bureaus, or book cases, should in part be made of red cedar, as the powerful odor of this wood is very offensive to moths, which attack furs or the binding of books. Russia leather, which derives its smell from a thorough impregnation with the oil and smoke of the black birch, is valuable for the same purpose, and a few shreds of it scattered among books, or in drawers, is one of the best preventives yet known, to the attacks of the paper or book moth. The Orangery of Sir Charles Monck had been for several years much injured by the brown-scale insect, (a variety of the same that attacks apple-trees,) when as an experiment, he suspended among the branches a quantity of cammomile, and syringed others with an infusion of this strong smelling herb. The result was, that his trees were almost entirely freed from the insect, the young scales turning dry and black and falling off. Tanzy we know is a strong repellant to many insects that infest our gardens; and it is very probable that most of the strong scented, or aromatic plants, would be found repulsive if not destructive to some of the insect tribes that harrass and injure the crops of the farmer, gardener, and fruit grower. Experiments on the smell of these depredators might easily be made, and if the result was not satisfactory, they could not be injurious or expensive.

Disappearance of the Curculio.—The New England Farmer, encouraging the cultivation of plums and other fruits, says, the curculio has this year in a great measure disappeared, and asks, "to what cause may we attribute its sudden exit? Was it the severe cold winter which gave them the check?" The exemption of fruits from the attack of the curculio, has been noticed in this vicinity, and an abundant crop of plums has been obtained.

A writer in the Michigan Farmer, recommends buttermilk for the destruction of lice on cattle.

THE MASSACHUSETTS PREMIUM FARM.

In 1843, the Massachusetts State Agricultural Society, awarded a premium of $200 to Mr. Benj. Poore, of West-Newbury, for "the best cultivated farm" within the State. We condense the following from Mr. Poore's account of his farm, as published in the New-England Farmer. The farm is known as the "Indian Hill Farm."

Number of acres.—Exclusive of woodland, salt marsh, &c., there is 121¾ acres, three of which are enclosed as a garden and nursery, and between six and seven acres planted with forest trees. There are six acres of mowing land which have not been drained, because his neighbor, through whose land the drain would have to pass, prefers to keep his meadow in *natural grass*—leaving 86 acres which are about equally divided into upland and meadow; the latter all reclaimed in the most permanent manner, and divided into fields, numbered from 1 to 14, which is found very convenient for reference in the journal always kept on the farm.

Nature of the soil.—The highlands are gravelly loam, resting on a clay pan, and crops are seldom injured by wet or dry weather. Of the meadows, some portion is a strong clay that would make bricks—others rich, black, alluvial soil. These were of no value till drained. It was first fenced to keep off the cattle that they might not get mired in going on it to feed on the coarse wild grass which grew there. It is now so hard that a team may be driven over it without any difficulty. About sixteen years ago, Mr. P. employed a Scotch farmer, whose knowledge and experience in draining, proved of much advantage.

Depth of plowing.—The precise depth is not mentioned, and we are left a little to conjecture *how* deep Mr. Poore means when he says "we always plow deep, and are well satisfied deep plowing never injured *our* lands."

Kinds of crops cultivated.—About 10 acres of Indian corn and potatoes. Corn produces 72 bushels per acre. Mr. P. thinks rye should be sown early, say in August, or late, say in October. Two bushels of rye are sown to the acre. Corn and potatoes are cultivated entirely in drills. The arguments in favor of this mode are, that less manual labor will produce a crop. A double mold board plow is used in digging potatoes. Plowing in autumn is preferred—the earlier the better. The long barnyard manure is used in a green state, put in the drills where the corn and potatoes are planted. When the crops are removed in autumn, the land is thrown into ridges by the double mold board plow. Spring crops are oats and barley. Wheat was formerly sown, but latter years has not produced well. The manure is chiefly used with the corn and potatoe crop, and not much on laying the land down with small grains and grass, as it tends to produce too rank a growth of straw. If *top-dressings* are used, compost is preferred. The fields are cultivated as near as possible in rotation. Made last year 363 loads, 30 cubic feet to the load, of compost manure.

Number of acres mowed for hay.—Mr. P. mows 86 acres, commencing early in the season, as the horses are kept up all the year, and the oxen at least three quarters of the year—therefore a portion of the grass is used for soiling. Estimating the hay on hand first of August at 500 cubic feet to the ton, at which rate it is often sold, there was on hand 157 tons.

Flooding grass lands.—Twenty acres of Timothy meadow was flowed in the winter of 1842-3. The result was an injury to the grass. The water it is supposed, laid on too long. The experiment will be repeated—letting the water remain on only two or three days at a time.

Oats and barley.—The Scotch two rowed barley, and the Scotch potatoe oat are preferred. Three bushels of oats and 3 to 3½ of barley are sown per acre.

Laying down meadow lands to grass.—After the hay crop is taken off, the land is plowed, laying the furrows flat, and rye and grass seed sown, with a liberal top-dressing, and then rolled. A bushel, and in some cases, a bushel and a half of grass-seed (kind not mentioned) is sown per acre.

Saving and making manure.—Manure is saved in every way that it can be obtained. Compost is made from the parings of the ditches, leaves, meadow-muck, &c. In addition to the ordinary means of saving the manure of the stock, a cistern for saving the urine has been constructed, and is thus described. "It is 13 feet in diameter and 15 feet deep, constructed of stone and cement; into this runs the stale from the stable, ox house, cow house, and all the liquid from the cow yard, the suds and wash from the dwelling; over are the water closets of the dwelling, two in the basement, two on the ground floor, and two in the chamber; these are connected by covered passages to the dwelling; in the second story is a place for putting down loam or any material wished for compost, which we do weekly; back of the building and under the basement, is a convenient place to throw out the compost, which we do semi-annually. There is nothing offensive in the smell, and we think too high an estimate cannot be placed upon this appendage to the farm."

Live stock.—The stock kept on the farm, is six oxen, ten cows, and from four to six horses. The cattle are Durhams, "which," says Mr. P., "for *our* farm we think have no equal." The calves are shipped south and west when six months old, except such as are necessary to keep the stock good. The calves are generally put to drink as soon as dropped. Sometimes, when a very fine one is dropped out of season, it is allowed to run with the cow. Mr. P. considers this an expensive mode of rearing calves, but says the prices he has often obtained, fully justify it.

No cheese is made of late years—the milk being sold, except what is wanted for family butter at the house.

Swine.—From six to fifteen, at different seasons, are kept. They are mainly supported by wash from the house and unsaleable vegetables. The manure of the horses and cattle in summer, is thrown into their yards, and they are kept well supplied with turf-parings, sods, young weeds, &c., which are often removed to the compost-heap, and a fresh supply given in return.

Orchards, &c.—There are 347 apple-trees, from which there were formerly made 75 barrels of cider. Recently the trees have been headed down. Of pear, peach, plum, apricot, and cherry-trees, there are 1,200, planted out at different times within the last ten years.

Laborers.—There are three departments. The farmer and three assistants, and two boys—the gardener and one assistant, and the machinist's department, which is composed of one blacksmith, one stone mason and wall builder, one wheel-wright and carpenter. They all keep separate accounts, and when one exchanges time it is repaid the same as if with a neighbor. Since 1826, Mr. P. has had a Scotchman as foreman, and with the exception of one Dutchman and one Welchman, the laborers have all been Scotch, English, or Irish. Foreigners cannot do as much work in one day, as the Americans, but they do more work in one month, and infinitely more in a year. They are not afraid of wet or cold, and having been raised to labor, are content to labor. The foreman being a foreigner, can manage them better. They also prefer him, as they can work as they have been accustomed. Mr. P. says, "having made a rule that when they were deserving to provide better situations for them after they had become accustomed to the climate and manner of farming here, I can at any time, from the neighborhoods of those who have faithfully served me, supply myself, at sixty days notice, with any number of farmers or mechanics, at the old country wages, which do not exceed upon the average £12 per annum for farm servants, or £20 per annum for mechanics. In addition, board, washing, and lodging, if single—and use of cottage and garden, and one quart of milk per day and board themselves, if married. I wish no better men than I obtain at these prices."

Barns—The main barn is 120 feet long and 42 wide. In the basement or cellar, (though mostly above ground) are horse-stables, ox-house, threshing mill, cider press, hay press and vegetable cellars, which are filled by rising hatches in the floor above. There are also two wings 80 feet each, one of which is a cow-house and a wood-house in the basement or cellar—the other a piggery, and over it a carriage-house, work-shop, henery, &c. The barn is devoted to hay and straw, and all the cattle are fed, by putting hay down in the racks. The cattle are tied by chains. The floor of the cow-house, ox-house and stables, is of paved stone, and gutters cut from stone, lead to the cistern. The entire barn, stables cistern, &c. were erected at an expense of $2,000. The basement is constructed entirely of stone. Split stone is used for door-posts, supports in cellar, &c. The roofs are covered with tin, which Mr. P. says costs in the first instance, one-third more than good shingles; but it has been on eleven years, and shows no signs of rust or decay.

The cow-yard (or barn-yard) is filled with mud, earth, leaves, &c., in the fall, which are put into heaps in spring, when the yard is again filled—the droppings of the cows and manure from the stables in summer, is daily put in with the hogs under cover, and removed to the compost heap every convenient opportunity, when properly worked.

SAVING MANURE.

The effluvium, or gas, which arises from decomposing animal or vegetable substances, though exceedingly disagreeable to our olfactory senses, is the congenial food of growing plants.

Arthur Young said, many years ago, "he who is within scent of a dung-hill, smells that which his crop would have eaten if he would have permitted it." Sir Humphrey Davy demonstrated this. He placed a quantity of fermenting manure in a retort, and ascertained that it gave off a liquid containing a large proportion of salts of ammonia. Seeing this result, he introduced the beak of another retort filled with similar dung, under the roots of some grass in the garden, and "in less than a fortnight, a very distinct effect was produced on the grass upon the spot exposed to the influence of the matter disengaged in fermentation; it grew with much more luxuriance than the grass in any other part of the garden." It is hence obvious that by permitting the escape of the gas evolved during fermentation, the valuable portions of the manure are dissipated in the atmosphere.

"The loss of *gaseous manure*," says Mr. Hannam, in in his excellent essay on the Economy of Waste Manures, "arises from the escape of the carbonic acid and the ammonia, of the vegetable and animal matters in the manure-heap, during the process of fermentation and putrefaction; both of which gases are essential in the nutrition of vegetables. * * * When this evolution of ammonia and carbonic acid takes place under the root of the plant, it is what we want; but when it takes place, as is generally the case, months before the compost is used, the manure is robbed of its most valuable constituents."

"It is worthy of remark," continues Mr. Hannam, "that the richer the manure is in nitrogen, the more serious the loss is; as the more nitrogen a substance contains, the more prone it is to ferment and throw off ammonia." The observation of every farmer will corroborate this; for all have noticed that the richer the manure, the stronger the odor arising from it.

The most effectual means, probably, of preventing this waste of the gaseous portion of manures, would be to apply them to the soil before fermentation takes place. In this case, the gases would be taken up by the growing crop. Stable, or barn-manure, is sometimes deposited in cellars, where, from the low temperature and seclusion from the air, it undergoes little or no change. Thus kept, it retains its original strength, and is much more powerful and enduring in its effects, than that which has undergone decomposition in the open air. But there is often so large a portion of undecayed vegetable fibre, (litter, &c.) in manures, that they cannot be conveniently applied in a green state. Besides, for some crops, the action of green manures is not quick enough; and for other crops, as wheat and other small grains, they tend to produce too great a growth of straw, and increase the liability to rust.

It becomes, then, necessary, under certain circumstances that manures should pass through a state of fermentation before they are applied to the soil, and the question is, how can this object be accomplished without loss?

Reason teaches, and experience proves, that substances may be mixed with manure, which will absorb the gaseous portions as they are generated. *Earth* is a good absorbent. If a dead animal be enveloped in earth before putrefaction commences, and allowed to remain so till the carcass is decomposed, the earth will have absorbed the nauseous fumes occasioned by the decomposing animal matter, and will be found rich in those principles which constitute the food and growth of vegetables. This example teaches that mixing soil with manure, or covering the manure-heap with a layer of soil while undergoing fermentation, will preserve much of its value which would otherwise be lost. There are other substances which are preferable to common soil—such as charcoal, (which it is said will absorb ninety times its own bulk of ammoniacal gas, and thirty-five times its volume of carbonic acid gas,) and peat, or swamp muck. The latter, in many parts of the country, can be had in the greatest abundance, and it is, beyond doubt, one of the best means of augmenting the farmer's stock of valuable manures. In its composition and absorbing power, it much resembles charcoal—being principally the carbonaceous matter of decomposed vegetables. Every farmer who can conveniently obtain peat or muck, would do well to place a layer of it under all his manure-heaps—to mix it with barn or stable manure in forming composts, covering the piles with a coating of it to prevent the waste of the gases, and throwing it liberally into the stalls of cattle and horses, to absorb the urine. Results will show that the labor thus bestowed in the use of swamp muck, will be rewarded a hundred fold.

Other substances are used as *fixers* of ammonia, &c., which act somewhat differently from those above mentioned—such as gypsum, and various kinds of acids. The theory of their action is, that the ammonia, being an alkaline gas, will by combination with any acid, form a neutral salt. Gypsum is a combination of lime and sulphuric acid. When this is applied to fermenting manure, the sulphuric acid of the gypsum leaves the lime and unites with the ammonia, the acid having a stronger affinity for the ammonia, than for the lime with which it was before combined. Mr. Hannam, in the essay before referred to, recommends that the manure-heap be covered with peat, or some absorbent, and "this coating kept well saturated with sulphuric-acid and water, say a weak mixture of ten gallons of water to one of acid." Mr. Hannam adds, that any other acid which may be obtained at a cheaper rate, will act as well, as the ammonia will combine with any acid. Either the application of gypsum, or the acid solutions mentioned, will soon effect such a *fixture* or combination, that little or no smell can be perceived.

In regard to the use of *salt*, which has been by some recommended as a fixer of ammonia, Mr. Hannam says—"My own observation teaches me to prefer acid to any salt, as it is equally cheap, more easily used, and is, therefore, likely to be more generally efficacious."

"Much increase is by the strength of the ox."—[Prov. xiv. 4

The following in substance, is Dr. Adam Clarke's *just* commentary on this passage of Holy Writ. The ox deserves more consideration than he usually receives, for the reasons here so correctly given: "The ox is the most profitable of all the beasts used in husbandry. Except merely for speed, he is superior in almost every respect to the horse. 1. He is longer lived. 2. Scarcely liable to any disease. 3. He is steady, and always pulls fair in his gears. 4. He lives, fattens, and maintains his strength on what horses will not eat, and therefore is supported at much less cost. 5. His manure is more profitable. And, 6. When he is worn out in his labor, his flesh is good for the nourishment of man, his horns of great utility, and his hide almost invaluable. It might be added, he is almost no expense in shoeing; and his gears are much less expensive than those of the horse. In all large farms, oxen for the common purposes of labor, are greatly to be preferred to horses. Have but patience with this most patient animal, and you will soon find there is much increase by the strength and labor of the ox."

Pick carefully all winter apples for sale and for use, and save all other apples for pigs and other farm stock, for which they will be found very valuable in winter.

PLOWING IN CLOVER.

Among other questions which ought to be, (and may be) decided, is that of the relative advantage of plowing in or pasturing clover. It seems to be taken for granted by many, that plowing in the clover crop is more beneficial to the land, and a more profitable course, than feeding it off by animals. But we do not think this point by any means established. In a late conversation with Mr. Noble, of Massillon, Ohio, he observed that from his own experience, he had been led to the conclusion that a much greater profit could be derived from pasturing clover with sheep, than from plowing it in. He had found the wheat crop as good or better where the clover was pretty closely fed down by sheep, as where that crop had been plowed under; the land in both cases being similar. If this would be the general result, the additional profits of the sheep, would decide the case much in favor of pasturage.

In a late number of the New Genesee Farmer, we find Mr. Wm. Garbutt, (a very judicious farmer,) entertains similar ideas to those above expressed. Mr. G. considers pasturing clover two years with sheep, more profitable to the farmer, more enriching to the soil, and more beneficial to the wheat crop, than plowing it under.

We would suggest to agricultural societies the propriety of offering premiums for experiments to test this matter.

BREEDING RABBITS.

We have had some inquiries made as to the breeding and rearing of rabbits, some believing that it might be made a profitable business in particular localities. If any of the readers of the Cultivator have had experience in this business, we should be gratified to hear from them; in the mean time, we present from our foreign publications such hints as may be of service to those wishing to undertake the care of this animal.

There are several varieties of tame rabbits, but the broad chested and short legged are the most esteemed. In some rabbit warrens, or places of breeding, natural or artificial mounds of sand are provided, in which sleeping and breeding places are formed, as well as holes for retreat and security from their many enemies. In other warrens, they are bred in hutches or boxes placed in sheds, or places where they can be secure from vermin. The utensils for feeding rabbits should be made of some material they cannot destroy, such as pewter, earthen ware, or iron, as they are apt to gnaw all wood within their reach.

The female or doe will breed from the age of six months, and the period of gestation is about thirty days. The number produced is from five to ten, and the weak or sickly ones, should be destroyed at once. Immediately before parturition, the female makes her bed fine by biting down the materials, and lining it with fur taken from herself. The doe will admit the buck within a fortnight after parturition; and the young are weaned only a short time before the birth of another brood. During gestation, the female keeps secluded from the males, or should have the means of doing so, as otherwise she may lose her young. Rabbits may be bred throughout the whole year, if their beds are warm; but usually they will not average more than five or six litters in a season.

Rabbits require much the same food as sheep, and generally the treatment so far as food is concerned, that best agrees with the one will do so with the other. Mr. Mowbray, in his work on breeding rabbits, directs that they should be fed three times a day; and remarks that in feeding, the preference is always to be given to dry and substantial food. The test of health with rabbits is, that their dung be not too moist. The grain proper for feeding rabbits is oats, peas, wheat, pollard or shorts, and some use buckwheat. The greens and roots the same as for cattle and sheep. Carrots, Jerusalem artichokes, boiled or steamed potatoes, lucerne, clover, cabbage leaves, tares, &c. The best dried herbage is clover and meadow hay, and pea and bean straw.

Rabbits are eagerly sought in markets where they are to be found. Some of the larger varieties, if cooked in the same way, are equal in flavor to the turkey, and are highly prized. They are usually sold from the teat, but those that are older may be readily fattened upon corn and hay, with an allowance of good vegetables. The better the feed given to rabbits, the better the quality of the flesh, and the more the profit, as is usually the case in feeding animals. Rabbits are in their perfection for feeding at the fourth or sixth month; older, they become more dry in flesh and somewhat hard. Three months is the time usually allowed to make a rabbit fat and ripe. For the table or the invalid, the flesh of rabbits is equal to that of poultry.

Few kinds of live stock are less liable to disease than the rabbit. When diseases do occur, they may usually be traced to too much green food, and are remedied by a change to dry food and grain. If the difficulty is of a nature that does not readily yield to this treatment, they are generally knocked in the head, as the value of the animal will not allow much trouble in the cure.

THE LATE JUDGE BUEL.

One of our citizens, in looking over some French journals, found the following announcement of the death of our late distinguished fellow citizen Judge Buel, made to the Royal Agricultural Society of France in Nov. 1840, which he has translated and furnished for publication, in the persuasion that his many friends will be gratified to read this homage to the honorable character and important labors of one of our chief public benefactors, prepared for the records of the Society of France, hardly second in influence and reputation, to the celebrated Academy of Sciences:

To the President of the Royal Society of Agriculture:

Sir—It is my painful duty to announce the loss which the Society has lately met with, in the death of Mr. Buel, one of its corresponding members.

This estimable citizen, like the illustrious Franklin, began his career as a printer, and became the editor of several works.

After having honorably discharged the duties of a Judge in the County Courts of Ulster, in the State of New-York, he was appointed State Printer, and removed to Albany, where he established the Argus newspaper, which he continued to publish until 1820, when he gave up this occupation and devoted himself wholly, in the 43d year of his age, to agricultural pursuits.

Having purchased, near the city of Albany, a farm of 85 acres, which was considered little better than a desert of sand, he improved it to such an extent, and succeeded in obtaining such valuable crops, that he was called the "Providence of Albany." His lands, which had been bought for $30 per acre, were valued at his death at more than $200.

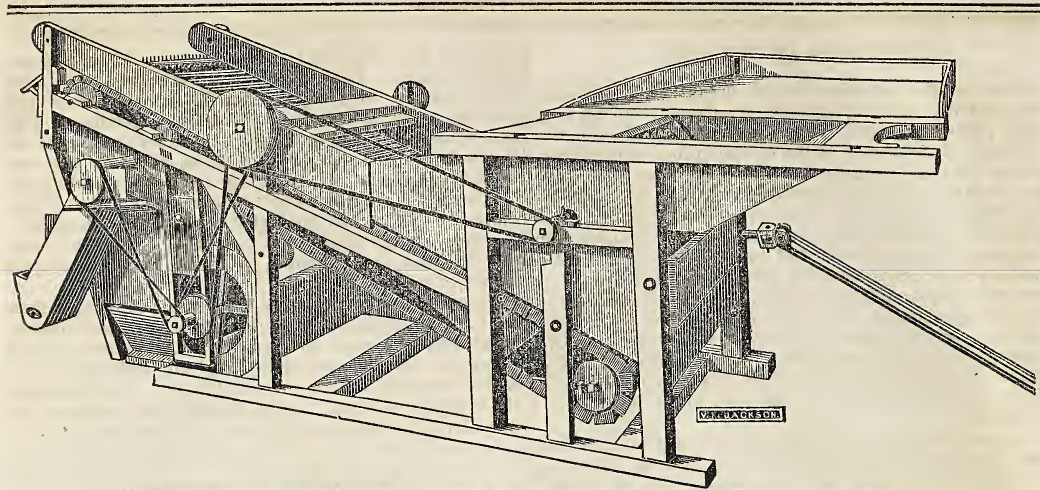
After his removal to Albany, he represented the city and county in the State Legislature, and was appointed a Regent of the University. The periodical called the Cultivator, which he established in 1834, under the auspices of the State Agricultural Society, enjoyed so great a reputation, that the number of its subscribers (exceeded) in 1838, fourteen thousand. I must not forget to mention a small but exceedingly important volume which he published, under the title of "Farmer's Companion," in which he gives an account of the most valuable of his observations and experiments in agriculture—a work prepared at the request of the Massachusetts Council, for the especial instruction of young farmers.

This useful and honorable agriculturist died of an attack of bilious fever in Connecticut, whither he had gone to deliver a discourse before the Agricultural and Horticultural Societies of that State. His loss will be long regretted by the many Societies that were proud to count him among their members.

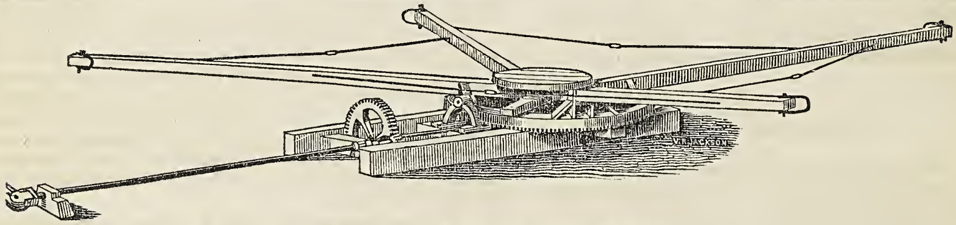
Accept sir, the assurance of my distinguished consideration. D. B. WARDEN.

Paris, Nov. 22, 1840.

Feed all fattening animals with perfect regularity—enough, but not too much. Save all your straw well for litter and winter feed.



HALL'S THRESHING MACHINE WITH PITT'S SEPARATOR.—(Fig. 93.)

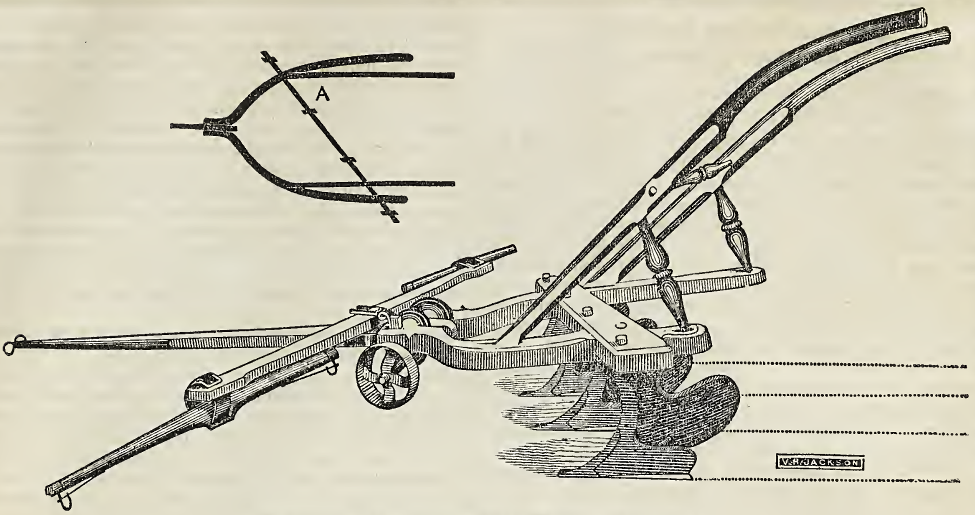


HALL'S HORSE POWER.—(Fig. 94.)

Above we give figures of the celebrated Horse Power and Threshing Machine, to which is attached Pitt's Grain Separator, manufactured by Joseph Hall, at Rochester, in this State. These machines are made of two sizes, and sufficiently strong for six or eight horses, though usually worked with four or six, threshing and clearing 200 bushels per day with ease. Of the cost of the machines, we are not informed. Any information respecting them, may be obtained by addressing the manufacturer at Rochester.

IMPROVEMENT OF LAND.

It is always very gratifying to hear of the improvement of old worn out or naturally poor lands; because it indicates the addition of solid wealth to the country, and sets a good example to others. It is a question well worthy of consideration, whether a good farm may not be made out of the poorest "old field" in the old States, at an expense much less than that involved in the emigration to, and purchase and preparation of, a rich one, in the western country; more especially, if the sacrifices incident thereto, be calculated in the account. Be that as it may, however, the improvement of poor land in all the old States, is an object of the first importance, both to individuals and States, to farmers and towns-people. Let any one look about the environs of the city of Baltimore, for example, or of Washington, or indeed any where in the middle and southern States, and see the large tracts of waste land that meet his view at every turn, and then ask himself whether individuals, cities, towns and States, would not all be benefitted by the improvement of these "old fields," and their conversion to profitable uses. But the thing is so self-evident, that no argument can be required to illustrate it. The *how*, not the *why*, it should be done, is the great point. *How* can this poor old field be made to produce thirty bushels of wheat, forty of corn, fifty of oats, or two tons of hay to the acre, at a cost that will enable the aforesaid crops to yield a fair interest on the investment and a fair compensation for the labor? That is the frequent question; and ten thousand echoes answer, "*aye, how!*" It is not intended *now* to answer this question, but to make a few remarks applicable to it, for the purpose of preparing the way for the answer at a future, but not distant day. We often hear of this and that case of improvement by this and that man, and of the wonders they have performed in the still more wonderfully short time of so and so many years. These announcements are always very gratifying to every body; they are eagerly sent forth to all the world in the newspapers, and are returned in grateful echoes upon the improver's delighted ears. And this is all right. It acts as a most powerful excitant upon others that had been more dilatory; it stimulates and encourages them to do likewise. But, unfortunately, they are always, or almost always, if not quite, accompanied by the well known fact, that the improvers were in possession of wealth, and that that enabled them to accomplish the wonders spoken of. They were not obliged to earn the bread they were eating, by the sweat of the brow, at the very time they were making the improvements. They were not obliged to raise the interest on the debt incurred in the purchase of that very piece of land, by hard work, at the very time they were ditching and draining and liming. They had the means wherewith to improve, and the time wherewithal to do it in. And is it wonderful, that with these attributes of ability in full possession, they made the improvements? Would it not have been wonderful if they had not? Still it is a good thing, no matter by what means it is accomplished; it is an act that deserves praise; just as does the proper appropriation of any and every other faculty or means any of us possess, and no more. Such improvers have simply performed an act of duty, which they owed to themselves, their families and their country—what else? But show to the world a farm once impoverished or naturally poor, that has been made fertile and productive, out of its own resources, by the judicious management and industry of the farmer, and that has in the meantime maintained that farmer and his family, besides paying some interest, and possibly principal of the purchase money, and all in the course of five or even ten years; then the world will have something to hold up to its rural inhabitants as an example that they ALL can follow. However commendable the former class of improvers may be, the latter is infinitely more so. The former has *purchased* a valuable property, the latter has *made* one. Farms may be found



WIARD'S PLOWING MACHINE—(Fig. 95.)

The above engraving represents, though not very correctly, a plowing machine invented by Mr. Thomas Wiard of East-Avon in this State. It is a combination of plows, arranged in such a manner as to operate precisely like a common plow, only that it is made so as to turn two, three or four furrows at once. It is designed to operate on all soils, after they are broken up, and is said to be used with great success on light or sandy soils even for the first plowing. The depth of furrow, from two to six inches, is regulated by a movable wheel. It has been thoroughly tested, and found to work well. The inventor has received the medals of the State Ag. Society and the American Institute, by whose committees it has been highly commended. All inquiries on the subject should be addressed to the patentee, Thomas Wiard, P. M., East-Avon, N. Y.

---

in many a part of the country that have cost their owners almost as much as it would to have paved their entire surface with silver dollars; and yet they are not a whit more productive than many others that never cost an extraneous cent. Many a farm may now be seen in any part of our country, that five years since, would scarcely pay for cultivation, but now yielding full, even heavy crops, that have never felt the influence of a particle of manure or other fertilizer, that it had not itself produced either directly or indirectly. This is the kind of improvement our farmers want; this is the only kind that can be generally adopted. The men that have money enough to improve land, are generally those that will make some other use of it; and the few that will appropriate it to that object are rather exceptions than constituents of the rule. Much more good, therefore, will result from the publication of instances of self-improved lands, and the processes of the improvements, even though but a moderate degree of excellence be obtained, than can possibly proceed from the dissemination of facts in relation to *paid for* improvements; because the one proceeds from the proper application of industry and intelligence, and can be universally followed as an example; the other from the concentration of extraneous means, and can be imitated by but very few. No one can object to the application of foreign means to this object; on the contrary, the more they are thus applied the better. It is good for the individual most concerned; it is good for the country that the gold in his coffers should be made to enrich the land. But do not hold him up as an example to be followed by those who have not the means to do likewise; and very few have; not one in ten thousand probably—for it is rather tantalizing for a poor man to be told that he can make his land as rich and productive as his neighbor Dives', if he will expend five or ten thousand dollars in its improvement! Rather tell him how to do it by the means he possesses, his industry, for that is all his capital, and lay before him instances with details, of other cases that have succeeded by the same means. The man that shall raise from impoverishment a piece of land in this way, that is by his own industry out of its own resources, deserves more of his country than all the mere politicians that ever lived since the world was formed.

G. B. S.

Baltimore, Sept. 1844

SALERATUS A SUBSTITUTE FOR SALT PETRE IN CURING MEAT.—Saltpetre has long been considered by physicians as a bad article to be used in curing meat, being extremely injurious to digestion; it is of so cold a nature that only a small quantity is sufficient to destroy life. In the article of saleratus, we have an excellent, convenient and harmless substitute, and should be used in the same manner as saltpetre has been. Meat has a stronger affinity for saltpetre than for common salt. Saleratus has the same power in that respect, and thereby prevents the meat from becoming too salt; and the same quantity should be used as of saltpetre. There is this difference in them, that saltpetre dissolves readily in cold water, whereas saleratus does not; it should be pounded and dissolved before it is put into the brine. Saleratus is composed of sulphate of potash and pearlash; and if any person is disposed to procure the sulphate of potash at the shops, and use it instead of saleratus, they will find its effects substantially the same.

The usual way of saving hams and shoulders, is to cut them as soon as possible after the hogs are killed. This course makes the meat tough and stringy. In cool weather they should be kept on hand just as long as they can be, and not be in any wise tainted. Then rub them over with sugar or molasses, and let them lie a day or two. Then put them into brine in which has been put an ounce of saleratus dissolved, for each ham or shoulder; let them lie three or four weeks in the brine. Smoke them in an airy smoke-house, and they will be found tender and delicious.

C. D.

NIAGARA FALLS.—From a paper in a recent number of Silliman's Journal, it appears that "the motive power of the cataract of Niagara, exceeds by nearly forty fold all the mechanical force of water and steam power, rendered available in Great Britain," and that probably the law of gravity puts forth in this single water fall more intense and effective energy, than is necessary to move all the artificial machinery of the habitable globe. From a series of observations and measurements made with great care and skill at Black Rock and Lewiston, it is estimated that there flows out of Lake Erie, 22,440,000 cubic feet, or 1,402,500,000 lbs. of water every minute. The whole power used in driving machinery in Great Britain, is equal to 233,000 horse power, while that of Niagara is 4,533,334 horse power

MR. BANCROFT'S ADDRESS,

At the New-York State Fair, Poughkeepsie, Oct. 19, 1844.

Mr. President and Gentlemen
of the Agricultural Society:

Farmers of New-York—The hour of separation for this dazzling array of beauty, this vast multitude of men, is at hand. Fruits richer than ever graced the gardens of Pomona—a paradise of flowers—needle-work the most exact, delicate and even—ingenious farming implements and manufactures of all sorts, cloths of the finest quality, from your own looms, and from looms in Massachusetts—horses, fit to win prizes at Olympia—cattle such as never fell in a hecatomb to Jove, and never were dreamed of by the highest genius of the Dutch painters—all these and more have arrested our gaze and filled us with wonder and delight. And now I am commissioned to summon you, and through you the population of this mighty commonwealth, to come up and join us, as, under the auspices of the State, honor and distinction are awarded to agricultural industry and genius.

A spectacle like this around me, of culture, order, and the peaceful virtues, cannot be surpassed in the world. In this hour, hushed be the spirit of party; be it utterly exorcised and banished from this enclosure, which is consecrated to the peaceful triumphs of the agriculture and the industry of New-York. [Applause.] We yield on this occasion to no narrower sentiments than the love of country, and of collective man, and we invoke the blessed influence of that universal Providence, which watches over the seed-time, and matures the harvest. [Applause.]

The theme for this occasion is the Agriculture of New-York. But what need of words to speak its praise? Look around you. The cultivated earth is its own eulogist. The teeming wealth that gushes from its bosom—the returns of its industry in every form, that present themselves in their abundance and perfection to our never wearied eyes—are the evidences of its magnificence. The trees in your market-place, and on your hill-tops, are older than the settlement of civilized man in our America; they are older than the presence of the plow on the soil of New-York: they are witnesses of the quite recent day, when your forests stepped down to your river's bank, and the glades and prairies of your west were covered with useless luxuriance. And behold the change which little more than two centuries have wrought: the earth subdued; the forest glades adorned with the white spires of churches, and gleaming with the light of villages; towns nestling in every valley; crowded cities, competing with the largest of the earth—profusely supplied with every article of food. And by whom has this miracle been wrought? By the farmers of New-York. [Applause.]

As I turn my eye northward, along the banks of the Hudson, my mind reverts to the memory of one of your ancient landholders, who died before our independence. Join with me, Farmers of New-York, in recalling the gentle and humane Robert R. Livingston, the elder, the father of the Chancellor. His home was in your vicinity; his mind was greatly and firmly, though not passionately, devoted to your service. An only son, husband of an only daughter, father of those whom the world will not soon forget; he was of so lovely a nature, that it seemed as if the fragrant atmosphere of spring, and the melody of its sweetest birds, and the softened reflection in your tranquil river of its grandest scenes, had blended together and melted themselves into his soul. Peace to his memory; let it not perish among you. Let the lines on his monument be refreshed and deepened.

Nor let me limit the achievements of the farmers of New-York to the subjection and beautiful adornment of its soil. The great works of internal communication, making this State a wonder to the world, were commenced by the enterprise of yourselves, were undertaken when farmers held power. Call to mind the immense structures which make this State the astonishment of the world; its channels for inward communication carried upwards to the waters of the St. Lawrence, stepping aside to the Ontario, and united at the northwest with the illimitable wildernesses of our inland seas; and then join me in paying tribute to those who were the servants of the public mind in commencing this gigantic system. To De Witt Clinton, whose capacious mind grasped in advance the sum of its infinite benefits—whose energetic, vehement and commanding will, was to the enterprise like a powerful mill-stream as it dashes on an overshot wheel of vast dimensions. (Applause.) To Van Buren, who, when the bill for the construction of the canal had almost been abandoned by its earliest friends, put forth those noble-spirited, well-remembered exertions, which resuscitated it when all seemed lost, and restored it to the approbation of your Legislature. (Applause.) Well might those chiefs in the world of opinions, embrace each other in the hours of their success. If in action they were often divided, in this great service, they share a common glory. (Applause.)

But the farmers of New-York are not content with improvements in the material world alone. From their generous impulses spring your system of free schools. They have proved themselves the liberal benefactors of academies and colleges. They too, have been careful for the means of their own special culture, and have founded and nurtured societies for promoting agriculture. For an example of the virtues of private life, I name to you the farmer of Westchester county, the pure and spotless Jay, who assisted to frame our first treaty of peace, which added Ohio and the lovely West to our agriculture. Side by side with him, I name the friend of his youth, Robert R. Livingston, the younger, the enlightened statesman of our Revolution, whose expansive mind succeeded in negociating for our country a world beyond the Mississippi, and gained access for our flag to the gulf of Mexico. Here, on the banks of the Hudson, he is celebrated as it were by every steamboat, and remembered on your farms through his experimental zeal. On this day be remembered the virtues of Stephen Van Rensselaer, who first brought Durham cattle into this State, and liberally diffused the breed.

Join with me also in a tribute to Mitchell, the faithful advocate, and perhaps institutor, of one of the earliest agricultural societies; to Jesse Buel, who connected science with fact, taught how the most barren soil may be made vastly productive, diffused his acquisitions by the press, and by life and by precept was the farmer's friend; (applause;) to Willis Gaylord, whose agricultural essays are standard authorities, honorable to the man and to the State; to Le Ray de Chaumont, who kept alive an agricultural society in Jefferson county, when all others had expired, and gave the impulse to the formation of the State Society, of which he was the first president; to James Wadsworth, for his skill as a cultivator, and still more for his liberal exertions, pouring out thousands after thousands, at the impulse of a generous mind, as if from a well-spring of good will, to promote agricultural science in primary schools. (Great applause.) And I should be wanting on the occasion, did I not tender the expression of your regard to the present president of the State Society, to the influence of that institution of which he is the honored head; to its Journal of Agriculture, to its annual fairs. But let me also entreat its friendly wishes to its purpose of establishing an agricultural school; and to that other more diffusive design of introducing, through its secretary, scientific works on agriculture into school libraries. I am happy also to announce that efforts are now making to constitute agriculture, as it deserves to be, a branch of instruction in one, at least, of your Universities. (Loud cheers.)

I have named to you some of the benefactors of Agriculture in New-York. Their benefits endure. The pursuits of the farmer bind him to home. Others may cross continents and vex oceans; the farmer must dwell near the soil which he subdues and fertilizes. His fortunes are fixed and immovable. The scene of his youthful labors is the scene of his declining years; he enjoys his own plantations, and takes his rest beneath his contemporary trees.

But the farmer is not limited to the narrow circumference of his own domain; he stands in relation with all ages and all climes. Your society has done wisely to urge on those who bear the Gospel to untaught nations, to study their agriculture, and report for comparison every variety of tillage. All ages and all climes contribute to your improvement. For you are gathered the fruits and seeds which centuries of the existence of the human race have discovered and rendered useful. Tell me if you can, in what age and in what land the cereal grasses were first found to produce bread? Who taught to employ the useful cow to furnish food for man? When was the horse first tamed to proud obedience? The pear, the apple, the cherry, where were these first improved from their wildness in the original fruit? And whose efforts led the way in changing the rough skin of the almond to the luscious sweetness of the peach? All ages have paid their tribute to your pursuit. And for you the sons of science are now scouring every heath, and prairie, and wilderness, to see if some new grass lies hidden in an unexplored glade; if some rude stock of the forests can offer a new fruit to the hand of culture. For you the earth reveals the innumerable beds of marl; its mineral wealth, the gypsum and the lime, have remained in store for your use from the days of creation. For you, Africa and the isles of the Pacific open their magazines of guano; for you, (turning to John A. King and some other gentlemen from Long Island) old Ocean heaves up its fertilizing weeds. (Great applause.)

And as the farmer receives aid from every part of the material world, so also his door is open to all intelligence. What truth is not welcomed as an inmate under his roof? To what pure and generous feeling does he fail to give a home? The great poets and authors of all times are cherished as his guests. Milton and Shakspeare, and their noble peers, cross his threshold to keep him company. For him, too, the harp of Israel's minstrel-monarch was strung; for him the lips of Isaiah still move, all touched with fire; (applause,) and the apostles of the new covenant are his daily teachers. No occupation is nearer heaven. The social angel, when he descended to converse with men, broke bread with the husbandman beneath the tree.

[At this moment, Mr. VAN BUREN appeared and took his seat with the officers and other gentlemen upon the platform. He was received with the warmest enthusiasm, and it was some time before silence was restored so as to enable Mr. Bancroft to proceed.]

Thus the farmer's mind is exalted; his principles stand as firm as your own Highlands; his good seeds flow like self-moving waters. Yet in his connection with the human race, the farmer never loses his patriotism. He loves America—is the depository of her glory and the guardian of her freedom. He builds monuments to greatness, and when destiny permits, he also achieves heroic deeds in the eyes of his race. The soil of New-York, which he has beautified by his culture, is consecrated by the victories in which he shared. Earth! I bow in reverence, for my eyes behold the ground wet with the blood of rustic martyrs, and hallowed by the tombs of former heroes! Where is the land to which their fame has not been borne? Who does not know the tale of the hundred battle fields of New-York? Not a rock juts out from the Highlands, but the mind's eye sees inscribed upon it a record of deeds of glory. Not a blade of grass springs at Saratoga, but takes to itself a tongue to proclaim the successful valor of patriot husbandmen. (Applause.)

Here the name of Schuyler, the brave, the generous, the unshaken patriot, shall long be remembered; the zealous, reliable George Clinton, a man of soundest heart, a soul of honesty and honor, a dear lover of his country and of freedom. Nor do we forget him—the gallant Montgomery—twin martyr with Warren—who left his farm on the Hudson, not, as it proved, to conquer Quebec, but to win a mightier victory over death itself.

I renew that theme once more, to recount how the farmers of New-York have served their country and mankind. They were invested with sovereignty, and they abdicated. Glorious example! Highest triumph of disinterested justice! They themselves peacefully and publicly renounced their exclusive authority, and transferred power in this republic from its territory to its men. (Applause.) May your institutions, under the spirit of improvement, be perpetual. May every pure influence gather round your legislation. May your illustrious example show to the world the dignity of labor; the shame that lights on idleness; the honor that belongs to toil. To the end of time, be happiness the companion of your busy homes, and the plow ever be found in the hands of its owner. (Loud cheers.)

The farmer is independent. With the mechanic and manufacturer as his allies, he makes our country safe against foreign foes, for it becomes perfect by its own resources. All America, thanks to New-York, is united in the bonds of internal commerce; our exchanges at home exceed our foreign traffic; and were our ships driven from the ocean highways of the world, America has become competent to sustain herself. She has less to fear from war than any nation in the world. She may pursue her career and vindicate her rights, and call forth all her energies in conscious security, (Applause.) But why do I say this? To foster a spirit of defiance? Far otherwise. Let us rejoice in our strength, but temper it with the gentleness and spirit of love for all mankind—a love that shall perpetuate tranquility, and leave the boundless and rapidly increasing resources of the country at liberty for its further development.

Forests of New-York! under the hands of skill, shape yourselves into models of naval architecture, and go forth upon the seas to reconcile inequalities of climate, and confirm the brotherhood of nations. American ideas shall travel on your prows, and the genius of humanity guide your helm; while we who remain at home will water the tree of peace, so that its roots shall strike to the very heart of the earth, and its branches tower to the heavens: we will so nurture and protect it, that its verdure shall be perennial, that no spirit of animosity shall sway its branches, that not even a whisper of discord shall rustle in its topmost boughs. (Enthusiastic applause.)

One word more, and I have done. But with that last word, I am about to address, though but in imagination, the assembled people of New-York. It is a tale often repeated, that to do honor to agriculture, the Emperor of China is, himself accustomed in the spring-time of every year, to hold the plow and turn a furrow. Under our republican institutions, far more is achieved. The State itself includes, and is in the greatest measure constituted by its farmers. They themselves are the kings that hold the plow and drive the team every day in the year. (Applause.) The whole commonwealth watches over the farmer. This Society performs its office as the agent of the people. They are assembled at our fair, to view with honest exultation the products of the farms and workshops, and single out this occasion alone, on agricultural pursuits to award public honors to exalted merit. It is right, therefore, to assume that the Empire State itself is present in your midst.

[At this moment a sudden alarm was created by the settling of the stage, which was closely crowded. There was a crashing sound, and the whole appeared to be giving way. Mr. Van Buren was the first to spring up, and beg all to be quiet, as there was no danger. Mr. Bancroft immediately turned it off very happily—"Yes," he repeated, "the Empire State is in your midst, and when she is here with the broad shield of her parental protection over our heads, no evil and no danger can befal any of us—no, not even to hurt a hair on the head of the youngest, and weakest, and tenderest among us"—stooping, as he spoke, to lay his hand kindly on the head of a little child which had been seated up by its mother on the edge of the platform immediately at his feet. This little incident elicited great applause, after which Mr. Bancroft proceeded.]

And has it occurred that this great commonwealth—the most numerous people ever united under a popular form of government—is emphatically a commonwealth of the living? Go to the Old World, and your daily walk is over catacombs; your travel among the tombs. Here the living of the present day outnumber the dead of all the generations since your land was discovered. All, all who sleep beneath the soil of New-York, are fewer in number than you who move above their graves. Look about you and see what the men of the past have accomplished.

Concentrate in your mind all that they have achieved; the beauty of their farms, the length and grandeur of their canals and railroads, the countless fleets of canal boats they have constructed; their ships that have visited every continent and discovered a new one; their towns enlivening the public plains; their villages that gem the valleys; the imperial magnificence of their cities; and when you have collected all these things in your thoughts, then hear me when I say to you, that you of this living generation, as you outnumber all the dead—are bound, before your eyes are sealed in death, to accomplish for New-York more than has been accomplished for New-York thus far in all time. Well have you taken the device on your banners; the sun as he emerges gloriously above the horison and comes rejoicing in the East:—Well have you chosen your motto: "*Excelsior*," upwards, still upwards. Mighty commonwealth! lift up your heart; let your sun ascend with increasing splendor towards its zenith. You shall be a light to humanity: a joy to the nations—the glory of the world.

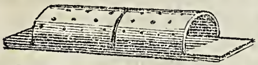
LETTER FROM "DOWN EAST."

Messrs. Editors—I belive that you have a correspondent to your truly valuable paper, from every State in the Union, but this, and for lack of a more interesting writer to fill this vacancy, I take advantage of a leisure evening to tell you a little about the part of the country I live in. And firstly, as to locality. If you will take a map of the State of Maine, and glance at the north-eastern portion of said State, that tract of land formerly known as the "Disputed Territory," you will see in the first range from the east line of the State, about forty miles north of Houlton, a township with a capital D in the middle of it. Well, in that township, only two miles from Fort Fairfield, so celebrated in the annals of the Aroostook war, lives your humble servant. Doubtless some of your southern or western readers will wonder what there can be to write from such an out of the way corner, that can interest any body "out in the world," as we term it. But I can assure you that this place is not so devoid of objects of attraction as one might suppose. In the first place there is some comfort in being far enough east to have a fair view of sunrise, and then I am only half a dozen miles from the "jumping off place;" the eastern end of this lower world. Then again there are yet to be seen by the curious traveler, the identical stump on which some time in the course of the aforesaid Aroostook war, in the times that tried men's *soles*, sat one of our soldiers, the unfortunate Bassett, when he cut his thumb making a pudding stick, for which he now receives a pension of seven dollars per month, and the house in which our Land Agent was captured, while sleeping soundly upon that feather bed, to enjoy which, he had left the "posse" sleeping upon boughs at the Fort, and had crossed the river into the enemy's country. The road too, upon which we travel into this country, is quite a natural curiosity, and I think would rival any of the Michigan roads of which Miss Martineau gives such a spirited description in her letters. The gridiron bridges, generally the dread of travelers, are the only decent part of our roads. The swampy places are mostly causewayed with logs laid *lengthwise*, and there they are now; some of them so rotten as to offer no resistance to the wheel's cutting down through deep into the mire below, while of the remainder, one end rears up most ambitiously, ready to catch the horse or wagon of the unwary traveler, while the other end is sunk into the lowest depths of the "slough of despond." But no description of mine can convey to you any idea of our roads, and I can only say that I considered I "escaped a great mercy," as I once heard a person say, in only breaking *one* axletree while coming in this fall. Perhaps you will wonder at my choice in leaving civilized life for a home in the woods, in leaving the cold regions of my native Kennebeck, for the still colder Aroostook; thus jumping not exactly out of the frying pan into the fire, but out of the refrigerator into the ice-house. But the cheapness and fertility of the land, and the nearness and facility of a good market, offered sufficient inducements to lead me to pitch my tent here, and I have not as yet seen sufficient reason to repent my choice. The State land can be bought here at 75 cents per acre, only one-fourth of which is to be paid in cash, the remainder being payable any time within four years, in work upon the roads built for our own accommodation. The soil, I presume from the representations of those who have traveled considerably through the eastern States, is equal to any that can be found in New-England. It is of four kinds—a light yellow, a chocolate color, a whitish gray, and in the cedar swales, a black mucky substance, apparently as rich as barn-yard manure, lying above one of the other varieties of soil. These different kinds of soil are all frequently found in the distance of two rods, and we like to have them in close proximity so as to mix by harrowing and plowing. The subsoil is generally gravelly and rests upon a limestone ledge, set up edgewise and so porous that the water, in a wet spell, runs down through it as it would through a sieve. The consequence is that the land can never be wet, and is always fit to work upon immediately after a rain. Another peculiarity is that it stands a drouth remarkably well, also. Why this should be, I do'nt know, unless it be that the moisture, in a dry time, draws up from down in the ledge by capillary attraction. The ledge appears to be in process of decomposition, and can in many places be shovelled with facility; the soil is full of little pieces of slate or limestone, which upon being turned up and exposed to the air, soon pulverize and disappear. The soil is generally pretty clear from stone, although there is now and then a stony spot, but there are no large boulders to be found. The great drawback upon this region as a farming country, is its liability to early frosts, but I think that all our crops except corn and beans, are as sure here as in Massachusetts, or the oldest settled parts of Maine; that is, I think the frost does not injure us any more than the rust, drouth, &c., do there. And if we are so unlucky as to lose our crops every third year even, we are twice as well off as farmers in other parts of New-England, for we can raise three times as much crop with the same labor in a good season, as they can. Wheat has been raised here on burnt land at the rate of more than forty bushels to the acre, and oats at the rate of eighty. I am satisfied that no part of New-England can compare with our section for raising wheat, oats, rye, barley and potatoes. The growth is generally, I believe, a pretty fair indication of the soil beneath, and the trees here will average about twenty feet taller than in Kennebeck, and large in proportion. The growth consists principally of rock and white maple, yellow birch, ash, pine, cedar, fir, spruce, and hackometack, juniper or larch, as it is variously called. The birches are generally from three to five feet through, and I saw one which was cut down last year which measured five feet across the stump. The cedars are very large and plenty, and grow on as dry land as any we have, with birches scattered among them. A missionary who is now visiting us, noticing that a spruce recently felled, looked very long, took the trouble to measure it, and found it 130 feet in length. The greatest difficulty with this country, appears to be in the way the inhabitants manage the soil. I notice that a great deal is said now-a-days in the agricultural papers, of rotation of crops, and I have seen several shifts recommended, but none quite equal to that adopted here. The first two crops after clearing are wheat; then they take off two of oats, three of barley, half a dozen of buckwheat; and then they will swear at the land, because it does not bear grass. This applies however only to the blue noses, the aborigines of the country, as you might term them, who have been in quiet possession of the country on the banks of the Aroostook until within four or five years, but are now fast clearing out as the Yankees come in and take possession of the country. But the length of my epistle admonishes me that it is time to close. So no more at present. When the crops are threshed, I will write something about the yield here. Georgius.

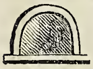
Mending a Tree.—The Boston Cultivator says—"We saw at Isaac Frost's, Newton, a tolerably large apple tree that had the bark eaten all around by mice, some years ago, and of course would have died, without some extra pains to save it. Mr. Frost set about a dozen scions in the tree, one end in the green bark and wood below, and the other above the wound. They all took at both ends and grew well, except one which took only at the bottom, and is forming a little tree by itself. The scions are now about two inches in diameter and are touching each other. The tree is in a fine flourishing condition."

TILES FOR DRAINING.

It is hoped that the attention of farmers and agricultural societies may be directed to the encouragement of the manufacture of this article, as to one of the most important aids to successful cultivation. The difficulty of constructing durable under-drains in sandy grounds, has doubtless been felt by every one who has attempted it to any extent; and the frequent severe disappointments and vexation caused by the breaking in of the soil during heavy rains, and the consequent obstruction of large portions, render it exceedingly desirable to discover some means of avoiding these losses. It is believed the only effectual one, yet discovered, is the use of tiles. With a very few exceptions, these appear to be unknown in this country. They will be appreciated, as facilities for their general use are increased.



In the annexed figures, one of the best modes of construction is represented. Each piece or tile forms an arch about 1 foot long, and of a size adapted to circumstances, generally about 3 inches wide and 3 high, inside. Where the ground is very hard, they sometimes rest immediately upon it; it is best, however, in all cases, to use flat plates or "soles," of the same material, to support the lower edges. These should be a little wider than the outside of the tile. The following just remarks, as to their shape and construction, are from an eminent manufacturer in Ayrshire. "All tiles should be *one-fourth* higher than wide; the top rather quickly turned, and the sides nearly perpendicular. Tiles which are made to spread out at the lower edge and flat on the top, are weak and bad for conveying water. Some people prefer tiles with flanges instead of soles; but if placed even in a drain with a considerably hard bottom, the mouldering of the subsoil by the currents of air and water causes them to sink and get deranged." "Tiles," says Johnson, "should be smooth on the surface, heavy, firm, and ring like cast iron when struck with the knuckle. They should be so strong when set, as to allow a man, not only to stand, but to leap upon them, without breaking. The introduction of machinery in the manufacture of drain-tiles, by compressing the clay, and working it thoroughly in a pug-mill, to prepare it for being compressed, has greatly tended to increase the strength of tiles. An underburnt as well as an overburnt tile, is bad, the former being spongy and absorbing water, and ultimately falling down; and the latter is so brittle as to break when accidentally struck against any object."



It will be perceived by the figure, that the joints of the tiles alternate with the joints of the soles, both being of equal length. Straw is placed round them before filling the ditch, to prevent the washing of the soil through the crevices at the joinings, which admit sufficient passage for all the water.

The price of tiles must of course vary with circumstances, price of fuel, &c., and their cheapness will also be increased with the amount of manufacture and improvement of machinery. A machine, invented by the Marquis of Tweeddale, driven by one horse, and attended by one man and two boys, will make 12,000 tiles in a day of ten hours; the clay being previously prepared—three or four men being required to produce 1,500 tiles by the common way, in the same time. Judge Buel, who laid about two miles of tile drain, procured them manufactured in Albany, at an expense of twenty-five cents per rod, which afforded a passage for the water 4 inches square. He used boards for the "soles."

It is not known that any well laid tile drain, has ever given way or become obstructed; and hence, though costing more at the first outlay, they may be the most economical in the end. The diminished width needed in digging the drain, and the facility in laying them, will of course materially lessen the cost of tile-drains.

J. J. T.

Ruta bagas should be pulled with a ruta baga hook—a tool with a small sharp hoe on one side to top the root with one stroke, and two prongs on the other for drawing the root after topped, from the ground.

TO COLOR SCARLET.

Mr. Tucker—I have been asked several times within a year or two past, how to *color scartet*. Not possessing a practical knowledge of the *art of dying*, all the information I could give was based upon a knowledge of the chemical principles involved in the process. Those who tried the experiment in accordance with the directions given, failed; and as I believed in consequence of not procuring the proper *Mordant* or Tin compound; but all said they made a very nice pink. I have felt desirous of gratifying that portion of community most interested in operations of this kind, and have thought of making the inquiry through the columns of the Cultivator; but, having a few weeks since read an article in Dr. Ure's Dictionary on Arts, Manufactures, &c. on *dying Scarlet*, I have taken the liberty of transcribing it for publicatio in your paper, hoping that it will be acceptable to a least some of your female readers, as the present is th usual season for dying woolens.

Bouillon, or Coloring Bath.—For every pound of clot or wool, take 14 drachms of cream of tartar, (put into a convenient quantity of water.) When the bath is boiling and the tartar all dissolved, add 14 drachms of solution of tin (*Tin Mordant*, which see below,) and let the whol boil together during a few minutes. Now introduce th cloth, and boil it for two hours; then take it out and le it drain and cool.

Rougie or Finishing Dye.—(Three modes of preparing this are given, either of which may be selected.) Fo every pound of woolen stuff take 2 drachms of cream of tartar. When it begins to boil, add 1 onnce of cochineal reduced to a fine powder, stir the mixture well with a rod of willow or any white wood, and let it boil for a few minutes. Then pour in by successive portions, 1 oz. of solution tin (*Tin Mordant*,) stirring continually with the rod. *Lastly*, dye as quickly as possible. The colo will be a beautiful scarlet.

Second scarlet process.—The Bouillon or coloring bath, the same as above given, and always estimated for on pound of stuff.

Rougie or Finishing Dye.—Take 1 ounce of cochinea in fine powder, and two ounces of *Tin Mordant* withou tartar.

Third Scarlet process.—The *Bouillon* being as above. *Rougie.*—For a pound of woolen stuff—take two drachms of cream of tartar, one ounce of cochineal, one ounce of solution of tin, and two ounces of sea salt, dye as in process first. The salt, it is said, helps the dye to penetrate into the cloth.

Tin Mordant for dying Scarlet.—Pour into a glass globe, with a long neck, 3 parts of nitric acid at 30 deg. and one part of muriatic acid at 17 deg.; shake the globe gently, avoiding the corrosive vapors, and put a loose stopper into its mouth. Throw into this nitro-muriatic acid one-eighth of its weight of pure tin, in small bits at a time. When the solution is complete and settled, decant it into bottles and close them with ground stoppers. It should be diluted only when about to be used. When the tin compound is prepared as above directed, it may be depended upon. The following is often used by dyers, but is an inferior article.

Mix one pound of nitric acid with one pound of water, and dissolve in it an ounce and a half of sal ammoniac. Stir it well, and add, by very slow degrees, 2 ounces of tin turned into thin ribbands upon the lathe. Yours,

Clifton Park, Sept. 24, 1844. H. C. C., M. D.

Potatoe Onions.—The Brockport (N. Y.) Watchman says that Mr. J. Greenleaf, of that place, has raised this season, 500 bushels of potatoe onions from an acre of land. Some of the largest weighed 1½ lbs. each, and were 17 inches in circumference. This kind of onion is thought by seme to be valuable as an early sort—they grow wholly in the ground, like the potatoe. They are said to be mild and palatable.

Essay on the History, Character and Value of Guano, by D. P. Gardner, M. D., New-York. We have scarcely had time to glance at this pamphlet, but have seen sufficient to satisfy us that it is got up in an interesting and instructive manner.

SAXON SHEEP AND THEIR CROSSES.

Notwithstanding that the Escurial or Saxon breed of sheep have been so long in the United States, it would seem that their merits and demerits are not yet fully understood. The truth seems to be that the Escurial, or pure Electoral Saxony, are a hardy race of sheep, and that in their organization they possess every element which, in other breeds of sheep, is necessary for their preservation and prosperity. Their bones are small, but their bodies are very round, with broad shoulders, thereby forming a chest which is anteriorly large, and which gives them great strength according to their size. They have less yolk than other kinds of merino; but it may not be necessary for them, as their wool is very thick, and time has adjusted their qualities and proportions so that they can sustain themselves with moderate care in almost any climate of the temperate zones. The only reason why they have been esteemed so very tender and delicate, is that they were known almost only by the crosses which have been made between them and other breeds of Merinoes, and these generally were worthless, miserable animals.

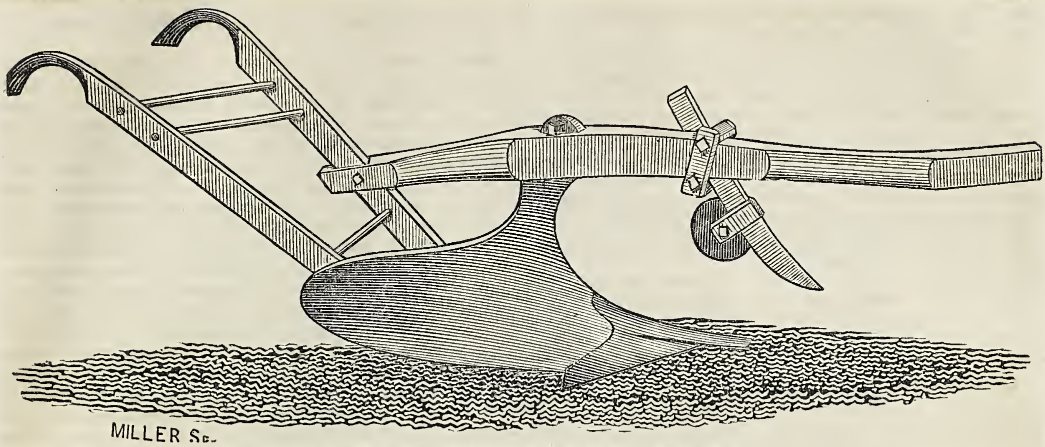
The Escurial flock in Spain formerly contained fifty thousand, and if they had been so very tender and delicate as thought by some, it does not seem reasonable to suppose that their proprietors would have continued to propagate them, as they could easily have obtained others which were hardy. Mr. Grove's success with them, goes to show that they are hardy—but as one experiment may not satisfy all, I will relate the experience of my neighbor, Mr. Jacob Cook, and also my own, which may serve to elucidate the subject. Mr. Jacob Cook formerly owned a flock of the short wooled breed of Merinoes, but not being pleased with the appearance of dirty looking sheep, he purchased, ten years ago, a few *White Merinoes*, as he calls them, which were brought from the State of Maine. They are high grade Saxon, and are evidently a cross between the Saxon and the old breed of New-England sheep, without any mixture of any other breed of Merinoes, and have less yolk than the pure Saxons. They are great milkers, and he has been very successful in raising lambs. He gives them very little grain, and in winter, in latitude 41 deg. north, he provides them no shelter from rain and snow, having neither sheds or stables for them, and they do not appear to suffer with cold any more than the best breeds of Merinoes of other kinds. Their wool is nearly equal in fineness to that of full blood Paular. The last time at which he took an average of the weight of the fleeces of his flock, it was 4 pounds two ounces.

Again, in 1837, I had a hardy well formed high grade Saxon ewe, having very little yolk, which I afterwards kept till she was twelve years old, and then fatted her off, making most excellent mutton of her. I crossed her that year with a long wooled ram of another breed of Merinoes, whose wool was black with yolk. The cross produced a round bodied well formed ram, having a great abundance of yolk, but which, when four years old and in good order, and standing with a dry fleece in a sheep barn among other sheep, would shiver with cold, when both sire and dam and all others, appeared perfectly unaffected by the cold.

These experiments would seem to show that the Saxon sheep, pure or of high grade, are hardy; that crossed with the old breed of New-England sheep, they make a hardy race, which are well suited to the use of those who wish to raise wool which is not quite so fine as the pure Saxon, but whose fancy is such that they must have *clean white sheep*; and therefore a cross between the pure Saxons and the Leicester or South Down might possibly make useful sheep for such persons.

Unfortunately, almost all the Merino sheep in the United States have been crossed with the Saxon. Mr. William Jarvis imported six kinds—among the rest, Escurials, which he mixed with the others; and therefore probably all the sheep in Vermont are tinctured with this breed; but as the people of Vermont have attended to those points which more particularly distinguish the Paular breed, it would seem that they must have nearly run out the Saxon, and that by selection and improvement, may show fleeces as thick and heavier than those of the Rambouillet flock, as their wool may be of a longer pile. For the Rambouillet flock is also tinctured with the *Escurial or Saxon breed*, as may be seen by the color of its wool, which is a cream color—and their wool is also shortened by it. Don Pedro, the first Rambouillet ram imported to this country, had wool only one and three quarter inches long, whereas the Negretti wool will average two inches in length, and the Paular two and a quarter to two and a half in length. Nevertheless, this Rambouillet flock may be hardy sheep; for this point of hardiness can only be determined by experience. And therefore the Rambouillet flock is still capable of improvement by increasing the length of its wool. When a flock is made up of a number of different breeds, it is very difficult, nay, almost impossible, to consolidate it so that their progeny shall appear homogeneous. Each kind will seem determined to dissolve the confederacy and set up for itself; and the remains of Chancellor Livingston's flock will exemplify this fact. The skillful breeder, taking advantage of this circumstance, may by selection, run them all into one of its kinds so as nearly to resemble each other. By reference to Burgoanne's travels, it will be seen that the Rambouillet flock was originally composed of seven different kinds or cavanas of sheep. Selections were made from the Paular, Negretti, and *Escurial (or Saxon)* cavanas—also from the cavanas of the Marquis de Iranda, the Marquis de Perases, Manuel de Balbucua, and the Count de San Rafael. The commissioners appointed by the French in 1785, were permitted by the Spanish king to select from the best flocks in Spain, and have, by publishing their proceedings, pointed out where the best may be obtained. Mr. Jarvis informs us that the remains of the Paular and Negretti flocks were taken to England and Scotland. But as the insane practice of mixing all breeds together does not prevail so extensively in Britain as in this country, it is probable that the Paular or Negretti breeds may be obtained from them in their purity. Among British sheep, it seems the best sheep have been formed by improving each kind by itself—witness the Leicesters, South Down, Cotswold, &c., and it seems as though the same course should be taken with the Merinoes—for there is as much difference between the different kinds of Merinoes as there is between different breeds of British sheep, only that their wool being all fine, these differences are not so readily noticed as those of coarse sheep. Any person who will import the Paular or any long thick wooled breed of pure Merinoes from Britain or Spain, and improve them as Mr. Grove has done the Saxons, and keep them unmixed, will confer a great favor on the wool-growing interest. We may then obtain fine wooled sheep, having good constitutions and large fleeces well covered with yolk, unique in their appearance, having wool of an even length on each sheep and of a greater softness than can be obtained from flocks made up from a variety of breeds. For superfine wool, we must always depend upon the Saxon; and between them and all other breeds of *Merinoes*, there should be a perpetual non-intercourse. C. D.

COLLEGES.—We have long been of the opinion that reform was no where more needed than in the course of studies pursued at our Colleges. The necessity for this reform is well set forth in the following paragraph, which we take from one of Mr. COLMAN'S Agricultural Addresses:—"Classical learning, so called, which occupies now a large portion of the best years of those who pursue it, excepting as matter of mere taste, pastime, or embellishment, is of little substantial use to any one. It is a notorious fact, and in my opinion sufficiently disgraceful to the boasted wisdom of the age, that at least two-thirds of the young persons, who enjoy the best advantages of a liberal and classical education, and come out adorned with the highest honors of our colleges and universities, are even then incapable of keeping themselves from starvation; and have then to begin to learn the practical arts of life; and the remaining third are able to do it, not from any thing they have learned at these places of education, but from what they were compelled perhaps by stern necessity to learn elsewhere."



CODDING'S AMERICAN PLOW—(Fig. 98.)

Represented by the above cut, is manufactured at Rochester, N. Y., by M. D. & T. H. Codding. Its symmetry of form and proportion, are such as to secure to it the qualities of lapping the furrows, or of turning them perfectly flat—but more naturally gives the half lap, which possesses all of the advantages of both the other forms, with none of their disadvantages; and leaves the soil very loose and friable, which is the result of its concave form, which also gives it great superiority for turning in stubble and clover, which it completely covers. Turns uphill perfectly, and is very superior for working in stony and hard land. It runs very steady, and requires less power to do a given amount of work, than a plow made on any other principles, if of the same size. The wood work, which is of the very best of white oak, is all prepared by machinery, and put together in the most simple and substantial manner; the castings are polished; and to suit every variety of taste, the coulter, roller, and clevy fixtures are made after several different models, some of the new ones being very superior in many respects.

Rochester, N. Y., Oct. 10, 1844. M. D. Codding.

DISINFECTION OF FECAL MATTER:

Its cheap and immediate conversion into manure.

Agriculturists are acquainted with the powerful properties of poudrette manure. The expense of its preparation and transport has hitherto limited its use to gardens and farms in the neighborhood of its manufactory. From the facts contained in the following letter, laid by M. Dumas before the French Institute in July, and which we commend to the serious attention of our readers, we learn that this potent auxiliary of production may be made quickly and at a trifling cost on every farm. The disinfecting agent used, is the sulphate of iron, or the copperas of the shops, which can be purchased at $1,37½ the hundred pounds. Should the practice of using it for this purpose become general, it is evident a great addition will be made to the resources of agriculture, particularly in the neighborhood of towns and villages. There is one application of the solution of copperas, not alluded to in the letter, which we would suggest to those who shall make a trial of it; we mean its application to the ordinary dung-hill. If each new layer added to a manure heap were sprinkled with copperas water, much, if not all of that most valuable element, the ammonia, which is now lost by its volatility, would be converted into a fixed salt, and thus saved. We suppose, of course, that the double decomposition which ensues on the addition of sulphate of iron to human excrement, would take place equally in the farm yard, a fact easily determined by experiment.

T.

Translated from the Moniteur Industriel of July 11, for the Cultivator.

Sir—In experimenting upon the simplest and most economical practical means of saturating the carbonate of ammonia of fecal substances, I have ascertained that sulphate of iron is to be preferred. This salt in small crystals and of the commonest quality, may be had for 8 or 10 francs the *quintal metrique*, (220½ lbs. avoirdupois—in Albany, copperas is sold at from $1,37½ to $1,75 per 100 lbs.,) and is more easily transported and managed than acids, which may occasion accidents in unpracticed hands. But sulphate of iron offers another remarkable advantage which must secure for it a preference.

The noxious and disagreeable effluvia exhaled by fecal substances, proceeds chiefly from the volatilization of carbonate of ammonia and sulphuretted hydrogen gas, which has been often fatal to scavengers. If we pour a solution of sulphate of iron into fecal matters, a double decomposition immediately takes place; the sulphuric acid of the sulphate combines with the ammonia, converting it into a fixed salt, and the iron forms with the sulphur, sulphuret of iron. The exhalations of ammoniacal vapor and sulphuretted hydrogen immediately disappear, and the fecal substances lose all but a slight smell peculiar to them, combined with the odor of the little vegetable matter they contain, and are not at all offensive.

When these substances are sufficiently liquid, the solid excrements are *dissolved* (in great part;) what remains, precipitating as a blackish slime.

I obtained this result by treating in the above manner, the contents of my house privy. The liquid I used at two degrees of strength for watering my garden, and the blackish deposit of trifling volume which had subsided, was spread upon the beds without occasioning the least inconvenience.

Fecal matters saturated with a solution of sulphate of iron may be transported by day as easily as common manure, without incommoding any body. As they form a very rich manure, they can be carried to greater distances than ordinary dung, and be readily diluted to two degrees to be used in the liquid form. (By two degrees, are meant two degrees of Beaume's hydrometer, which is graduated to 72 degrees generally—the first degree corresponding with water taken as unity—the last representing a liquid of twice the density of water, so that 2 degrees indicates a liquid of a density 1 1-72 greater than water.)

Fecal substances without previous saturation lose their carbonate of ammonia, which volatilizes, and are thus deprived of their most energetic fertilizing element.

The greater part of human excrements are lost at the present day, because they are not collected with care nor properly treated, on account of the repugnance they inspire. Yet they are of immense importance to agriculture. The solid and liquid excrements of a man may be estimated at 1.65 pounds per day, or 618 pounds per annum, containing 3 per cent of nitrogen, or 18 pounds, a sufficient quantity, according to Boussingault, to produce 880 lbs. of wheat, rye or oats.

Some portions of a meadow which I watered last year with a solution of ammoniacal salts at one degree, of two quarts to the square yard, still continue to exhibit superior vigor of vegetation, and will yield double the quantity of hay that the unwatered part will give. The result exceeds my expectations, for I did not think that the action of a small quantity of ammonia would continue for several years. I no longer doubt that it will be felt for three years at least. Ammoniacal salts may thus be easily made to supply the wants of soils where dung enough is not produced—for if we admit that 880 lbs. of these salts at 5 cts. and 3 mills, or about $47, are required to manure two and a half acres for three years, the annual expense would hardly be $16, (about $6,40 per acre,) which would be more than compensated by the increased production. I am, &c.,

SCHATTENMANN,
Director of the mines of Bouxwillier.

TURNING UNDER CLOVER, &c.

MR. TUCKER—There is perhaps no method of enriching lands more efficiently, and at so cheap a rate, as that of plowing under green clover. Clover is acknowledged by all practical farmers, as one of the best, if not the best grass in existence for fertilizing lands. Its long tap roots reach into the subsoil below, and loosen and render the soil light and mellow; and there is a substance which gathers around the roots over clover, in the form of rich mold, which I think no other grass is capable of producing. Yet with these general facts before the eyes of farmers, how few of us have yet resorted to this method of renovating and enriching our worn out lands. Many of us farmers, when we get a crop of clover grown, dislike to plow it in, as it looks too good to be wasted, and the consequence is that it is cut for hay, and ten chances to one if it is not spoiled in making, so that by the time it gets into the barn, it is nothing but a bunch of stems. There are many different opinions as to the management of clover, and as to the best time of turning it under for enriching the soil. Some prefer to have the stalk in a dead ripe state before they plow it under, and think that in this state it is in a more fit condition to furnish food for plants than when in a green state. Others prefer to have the crop fed off one or two seasons by cattle, and then have the mass of trodden down clover, together with the droppings of the animals, turned under for a crop of corn or grain as the case may be. We have succeeded in raising the largest crop of rye which we ever raised, by pasturing off a crop of clover two years, and then turning the whole under, with once plowing. There is no question, I believe, but that if farmers will allow clover to grow on their farms, it will enrich them greatly, whether fed off or turned under as a green crop; and yet many farmers are afraid to have this grass grow on their lands. They say that they do not want to sow much clover on their lands, as enough will come in of itself. This doctrine plainly indicates that they are afraid of this best of all grasses for enriching the soil. I think the majority of practical farmers will say that the best time for plowing under clover, is in a green state, at a time when the stalk contains the greatest quantity of saccharine juices. That time is when the stalk is in full blow. Where a crop of clover is thick and heavy in the ground, a heavy roller passed over it the same way that you plow, may press it down sufficiently to turn under. If not, a chain attached to the plow beam, let down so as to drag the clover down, will do the work pretty well. Care should be taken to have all turned under that possibly can be. In this state it should lie till it is thoroughly decomposed. On plowing it again, it will be found that the ground is light and mellow. But it may be said by many that on poor, worn out lands, it will be of little use to sow clover, as the soil will not produce it. In answer to this, I would say that on such lands, commence with buckwheat, and turn in a crop or two of that, and then oats, and then try clover, and do not be discouraged if the first crop of clover is not as thick as you could wish, but try another crop, and you will soon have the satisfaction of seeing your worn out lands in a state of fertility. In conclusion, I will say to the farmer, that whether you feed off your clover, or turn it under green, or make it into hay, sow clover. L. DURAND.

Derby, Conn., Oct., 15, 1844.

STOVES—THEIR DELETERIOUS EFFECTS.

MR. TUCKER—I have for years been aware of the fact that the effects of stove heat were very injurious; that many, very many of the chronic complaints, which have been increasing to such an alarming extent for the last few years, have been wholly or in part produced by the use of *stoves;* that silently, and almost, if not quite, imperceptibly, they have continued to sap the foundations of health, without giving an alarm, until too late for the application of successful aid. Even those who have been to some extent aware of these effects, have not imagined the extent of the evil, and consequently this prolific parent of those most afflicting diseases, such as consumption, nervous and dyspeptic complaints, together with others, has been permitted unarrested to prey upon the vitality of our constitutions. This is no picture of fancy, but a sober, serious fact, forced upon my understanding by experience and observation, and against my prejudices, for they were in favor of the use of stoves until absolute certainty of conviction compelled me to yield the point. Experience, followed by observation, had years since convinced me that the effects of stove heat, were to check *expectoration,* thus deranging the action of the *lungs*—to produce a corresponding effect upon the *skin,* which prevented *perspiration,* and through these, to affect and derange the whole system; thus producing a debilitated action, and feverish or inflamed state of the blood, causing coldness of the extremities, and followed by other symptoms in their turn, according to the constitution. Want of change of air in the room, difference of temperature between the air in the top of the room and at the bottom, and obstruction of moisture, had been looked upon as some of the causes of these effects, but there appeared to be still another one farther back; some organic change of the atmosphere, the effects of which were perceptible, but its nature, incomprehensible. This has heretofore prevented me from publicly sounding the alarm, though I have continued to do it in private.

The light thrown upon the subject, by a new system of philosophy, which the recent developments of science have enabled me to combine, has removed that barrier, hence this communication.

Electricity being one of the principal combining agents in nature, is consequently a necessary element of physiological combination, and is introduced into the system principally through the lungs, and has to do with the action of the skin also. It is also necessary in the combustion of fuel, and we find the atmosphere charged with the requisite quantity of it for these purposes, but the construction of stoves is such as to limit the amount of air; hence iron being a good conductor of electricity, that agent is abstracted from the surrounding air. This process also decomposes the moisture which the atmosphere contains, which consequently loses its most essential ingredients for the support of animal life, and also becomes a non-conductor of electricity, which prevents it from receiving a fresh supply from without. Water upon the stove, in part, but not wholly, remedies the defect.

In view of these facts, it behooves the American people, to look for, and apply a remedy for these evils, if they would escape the threatened curse of becoming a miserably sickly and enervated race. M. D. CODDING.

PEACHES.—The editor of the Boston Cultivator gives an account of a visit to the "Allen neighborhood" in Walpole, where he found some of the finest peach orchards in the country. He states the following singular fact in relation to a variety of the peach reproducing its kind. He says: "The principal peach cultivated here is the Allen peach, which is a seedling that has been propagated from the seed more than 40 years, through many generations of trees, always producing about the same, without budding or grafting. There is no more deviation from the original or standard kind, than there is in the Baldwin apple, or other varieties of fruit propagated by budding and grafting. We saw some trees bearing full that were 28 years old, and they had borne well from their youth to their old age." It is said to be a good peach—well deserving a place among the best—color light, with a red cheek—a freestone.

DESTRUCTION OF NUT GRASS.

Bermuda, West Indies, 4th Sept. 1844.

L. Tucker, Esq.—I have been one of your subscribers for some time. I have seen in the Cultivator for May last, information requested to extirpate "Nut Grass," and some person has recommended salt. We are much infested with it here, and I have tried every way to get rid of it. Salt did kill it where it came immediately in contact with the nut, but it does not kill them any distance in the soil, and is very expensive. The more you plow or spade, the worse it is, as you cut the fibres and make a dozen plants for one. I got at last, strong four prong forks, like potatoe forks, and after it was well grown in the spring, I made my men fork it up. In doing this, great care should be taken not to break the fibres, but as they throw up the soil, break the lumps, and take it out gently, throw it forward on the ground that is dug. You will sometimes follow a string of nuts two or three feet long. After it is all dug over, remove it from the field and burn it, or you may put it in casks, press it down well, and saturate it with strong pickle; let it stand for some time, and it will rot the nuts and the grass, and make good manure. This may be considered a tedious and expensive job, but it is the only way I can find out to get rid of it. A good piece of ground may be redeemed, and the forking pulverizes the ground so well that it will pay the expense, particularly in this Island, where we have no good ground to spare.

The first year will not clear it altogether. It must be followed up every year. Wherever a bit is seen, fork it up, and take it away, for if you leave it on the ground, it will take root again directly. Your correspondent in Alabama can try a few rods first, and he will be able to see if it is worth the expense.

As we are much put to it here for manure, we are obliged to grow green crops, say oats, buckwheat, and rape, and turn them in as manure, but the difficulty is to get a good plow for that purpose; can you recommend me to one of the best? Our soil is mellow, cuts easy, but adheres very much to the plow. F. P.

☞ Prouty's Centre-draft Plow is highly recommended for turning in green crops. At a late meeting of the Philadelphia Ag. Society, Dr. Emerson stated that he, in company with several other gentlemen, had recently seen a trial of the capacity of this plow for this purpose, and that its performance was highly satisfactory. The grass and weeds—the latter of which were from three to four feet high, were completely covered, six or seven inches deep; the ground afterwards presenting a fine, well broken, clean surface, requiring but little application of the harrow. The soil was a mellow, sandy loam. Will our correspondent favor us with an article on the Agriculture of Bermuda, embracing notices of the crops cultivated, manner of tillage, &c.?—Ed.

CULTIVATE YOUR FRUIT TREES.

The influence of the cultivation of the soil on fruit trees, appears to be less known and appreciated, than any thing else of the kind equally important, which has been practiced since the time of Hesiod and Homer. Persons who purchase fine fruit trees, appear to have more or less of five different objects in view, which are the following, to wit:

1. To kill the trees at once—2. To kill them by inches; 3. To keep them alive, with the hope that they may bear small and imperfect fruit in ten or twenty years;

4. To make them grow vigorously for a year or two, and afterwards neglect them, reducing the fruit to one-third in quantity and one-tenth in quality of what it should and might be.

5. To keep them well cultivated constantly during the term of their natural lives, and as a consequence receiving full crops, and of the most delicious quality.

1. Although many *appear* to pursue the first of the above named objects, they probably do not really intend it. They are however much more successful than they intend to be in killing their trees, by drying them in the sun, freezing them in the cold, bruising them, or otherwise treating them as already dead while life yet remains. A large number pursue this course.

2. Others avoid these attempts to produce death, but practice another kind, which is, to crowd the roots of the trees when setting them out, into very small holes dug in hard soil, and then to suffer them to perish gradually from such careless transplanting and subsequent lack of care and culture. A much larger number follow this practice.

3. Others again transplant *well*—but that is all. This done, they consider the whole work as finished. The trees are suffered to become choked with grass, weeds, or crops of grain—some live and linger, and others die from discouragement. An intelligent friend purchased fifty very fine fruit trees, handsomely rooted, and of vigorous growth; they were well set out in a field occupied with a heavy crop of clover and timothy. The following summer was very dry, and the grass crop crowded them hard on every side—most of them necessarily perished. The browsing of cattle the next winter completed the work for the rest—it would have been cheaper to have thrown them away at once. Another person, a neighbor to the first, bought sixty trees, of much worse quality in growth; he set them out well, and kept them well cultivated with a crop of potatoes. He lost but one in the sixty, and by pursuing the same course of raising among them, low hoed crops, his trees now promise to give him loads of rich peaches, before the dead stubs of the trees of his neighbor have disappeared from the grounds. Another neighbor last spring bought fifty fine trees. A few days since I passed his house, and he said to me, "I thought a crop of wheat was one of the best for young peach trees?"

"O no," said I, "it is one of the very worst; avoid all *sown* crops, and occupy the ground only with low, hoed crops, as potatoes, ruta-bagas, carrots, and the like."

"Well," answered he, "I have found it so—my fifty peach trees all lived, but I have lost one year of their growth by my want of knowledge."

I examined his trees—they had been well set out, in a fine soil, all the rows but one, had stood in a field of wheat, but the one excepted was hoed with a crop of potatoes. The result was very striking. Of the trees that stood among the wheat, some had made shoots the present summer *an inch long*, some *two inches*, and a very few *five* or *six* inches. On nearly every one that grew with the potatoes, new shoots *a foot and a half* could be found, and on some, the growth had been *two feet*, *two and a half*, and *three feet*. Other cases have furnished nearly as decisive contrasts.

4 and 5. An eminent cultivator of fine fruit, whose trees have borne for many years, says in a late letter, "My fruit garden would be worth twice as much as it is, if the trees had been planted in thick rows[*] two rods apart, so that I could have cultivated them with the plow. Unless fruit grows on thrifty trees, we can form no proper judgment of it. Some that we have *cultivated* this season, after a long neglect, seem like *new kinds*, and the flavor is in proportion to the size." Large trees often stand in thick grass, and poor crops and poor fruit can hardly fail to result; and the nurseryman who sold them is sometimes pronounced a scoundrel for having furnished such despicable stuff.

"But," exclaims some one, "are we always to be troubled with cultivating and taking care of our trees as long as we live?" Exactly. This is the condition of living and enjoying the fruits of the earth, which has existed these last six thousand years. Besides, if this labor gives a return of a hundred fold, who ought to regret it? If my orchard, yielding a hundred bushels now, of poor fruit, will, by putting a hoed crop and some manure into it, more than double its products, and greatly improve them in quality, where is my loss? Would it be grateful in me to complain of a little care and attention with so great a gain? Labor cannot be avoided, but it brings its reward. J. J. Thomas

Macedon, 9 *mo.*, 1844.

---

[*] The "thick rows" here spoken of, are meant to contain fruit trees standing six to ten feet apart in the row, so that the plow may be passed on each side parallel with the rows, the last few furrows in immediate contact with the trees to be plowed with two horses, one before the other, a boy riding the forward one. A very short whipple-tree should be used on the plow, and long traces attached to admit the plowman steering far to the right or left as necessity may require.

MONROE CO. AG. SOCIETY—RURAL ARCHITECTURE, &c.

Friend Tucker—The Annual Fair and Cattle Show of our County Agricultural and Horticultural Society, took place in the city of Rochester, on the 8th and 9th inst. The exhibition, upon the whole, was tolerably good, but not what it should have been. The apprehension that this fair, at best, would contrast but meagrely with the brilliant and imposing pageant, and the successful results of the State Fair, which was held at this place the last year, instead of inspiring our farmers with renewed zeal (as it ought to have done) and arousing among them a more determined spirit of emulation, served rather to dampen their ardor, or at least to discourage their efforts.

The first day was principally occupied by the exhibition of stock. There was a very fair display of horses, some tolerable specimens of Berkshire hogs, and some very fine sheep of the Merino, South Down, Cotswold, and Paular Merino breeds—of the latter, there were several beautiful samples from the justly celebrated flocks of Mr. Jewett, of Vermont. They were purchased and brought on here by Gen. Harmon, the enterprising President of our County Society, to improve his already highly cultivated flock. The show of cattle was quite slim. There were one or two pretty good Durham bulls, two or three fine yoke of oxen, but three or four cows that were passable, and of young stock, not over half a dozen head, or thereabouts, in all; among these, however, I noticed the full blooded Durham heifer (now owned by Mr. Sidney Allen, of this city,) which took the first prize at the State Fair, last year, as the best heifer calf—and yet this, probably the best blooded and most perfect animal on the ground, did not obtain a premium, because, as the committee stated, she had no competitor of the same blood. Mr. Latta, of Greece, had one or two very fine grade cows and heifers, nearly full blood Durham; and Mr. Smith of Brighton, had several good looking cows and heifers of the Holderness breed, (nearly pure,) the former said to be excellent milkers—one cow, in particular, it was stated by her owner, had given forty quarts a day. There were none, I believe, but grade cows, on the ground; there was not, to my recollection, a single pure Durham, Devon, or any other improved thorough bred cow, among them; *nor did I see a single cow of our native breeds.* Of this latter fact, at least, I think the farmers of our county ought to be ashamed; they, themselves, I have no doubt, would be slow to admit that they did not possess some as good native cows as any county in the State can produce; then why not bring them out and exhibit them with a statement of their dairy properties? If they have not yet made up their minds to adopt the thorough-bred, improved stock, on the ground that they consider their native breeds the best, why not bring them out and exhibit them side by side, so that all may see, compare and judge for themselves? For my own part, I have made up my mind from some little experience, and a good deal of observation, reflection and investigation, that the true policy for our farmers, in this matter, is to adopt the most approved breeds of thorough-bred, improved stock, such as the Durham, Hereford, Ayrshire, Devon, &c., then select out the *best* of our native stock, for the purpose of crossing or of comparison, and the remainder *knock on the head* and sell to the butcher; for all must admit that it costs no more (if as much,) to feed and raise a good animal, than a poor, mean one, that will not fetch, when it is three years old, as much as the straw it has ate would be worth for manure. But I am digressing.

If the meagre display of cattle at our Show, were to be attributed to the want of any other good stock in the county than that exhibited, the owners of several fine herds that were not represented at all, would be as provoked at the imputation as those present had reason to be at the absentees, for their negligence or want of spirit. I could name several owners of fine herds of improved cattle, who had not a single animal at the Fair, although the day was unusually pleasant and favorable.

The horticultural exhibition, on the second day, was very respectable, though not as extensive as it might and should have been. Of vegetables, there was a very good display; and also of some varieties of fruits, apples in particular. The productions of the dairy were somewhat limited. There was a goodly display of farming implements.

The address was delivered by Dr. Lee, of Buffalo; it was an able, scientific production, illustrating some of the more important principles of agricultural science, in a very clear, concise and intelligible manner. I meant to have given you a synopsis of its contents, but my limits will not allow of it; but as it is to be published with the transactions of our county society, you will have an opportunity of perusing it ere long. The list of premiums awarded, you will find in our city papers.

My thirst for the quiet luxury of rural life, with its invigorating, healthful, tranquilizing pursuits, does not abate in the least; it is growing into a ruling passion. There is more true satisfaction in planting and rearing one choice fruit tree—in making "two blades of grass grow where but one grew before," than in proselyting or colonizing a regiment of *political* parasites—and I believe it to be at least of quite as much *profit* to the best interests of our common country; and yet, if we were to contrast the overwhelming political gatherings which take place almost daily in our midst, with the recent slim annual ingathering of the farmers of our county, and that too, at their "harvest home" jubilee, one would be irresistably led to the conclusion that the great mass, even among our agricultural brethren, are more zealously bent on accomplishing the latter than the former of these objects. But another month will produce a "turn" in this political "fever," when, it is presumed, the body politic will have its healthful, legitimate functions restored.

I am making some improvements in my fruit, poultry, &c., and hope another year, to get my little "Rural Home Farm," in successful operation, with a small variety of the choicest stock, &c. I have got up a plan of a "Rural Home Cottage," which I design building on my place, next spring. It is in the "Rural Gothic" order, and an improvement, I think, as to beauty, simple elegance and convenience of arrangement, even upon the excellent and well-digested and tasteful designs of Mr. Downing, whose inimitable works on "Landscape Gardening & Rural Architecture," "Cottage Residences," &c., I have perused and re-perused with so much interest and delight, and I trust with no little profit also. My plans are drawn by Mr. Austin, formerly of New-Haven, and an architect of rare taste and ability in his profession, as his elegant specimens of workmanship will abundantly testify. I will furnish you with the drawings for your valuable paper, if you wish it, and can find room for them, in some future number. Your efforts, and those of Mr. Downing and others, to disseminate among our rural population a more correct architectural taste, are in the highest degree commendable, and are doing much towards advancing that too long neglected improvement.

Rochester, Oct. 12, 1844. T. H. Hyatt

MUSTARD SEED.

The Farmers' Cabinet contains a letter from C. J. Fell & Brother, of Philadelphia, by which it appears that our friend, J. H. Parmelee, Esq. of Duncan's Falls, Ohio, has reared the past season an extraordinary crop of brown mustard. Twenty-seven acres of land were appropriated to the crop. The seed was planted in rows one foot apart one way, and two feet the other. The crop was well worked during the season, and when near ripe was cut with sickles, laid on sheets or waggon covers, hauled to the barn in the sheets, and there threshed out and fanned.

The Messrs. Fell have purchased of Mr. Parmelee a part of the crop. One hundred and fourteen barrels, containing 382 bushels, weighing 52½ lbs. per bushel, making 20,100 lbs., for which they paid him 8 cents per

lb., making, ...	$1, 608 00
Mr. Parmelee has 100 bushels of *tailings*, which he estimates to clean up 75 bushels, say 50 lbs. per bushel, making 3,750 lbs. at 8 cts., ...	300 00
Giving as the product of 27 acres, ...	$1, 908 00

or $70 66 per acre.

CULTIVATION OF FRUIT—No. XI.

THE STRAWBERRY.

The varieties of this delicious fruit enumerated in catalogues, are very numerous. The late President Knight considered them all as having originated from one species, while others regard them as properly divisible into several species. Passing from the notice of these, it may be useful to cultivators in this country to give brief descriptions of the different classes into which the numerous varieties are divided. Mistakes in names are very frequent, and this may assist in rectifying them.

Class I. includes *scarlet strawberries,* and the general character is thus described by Loudon:—"Leaves nearly smooth, dark green, of thin texture, with sharp pointed serratures; the fruit mostly of small size, and bright color, with the seeds more or less deeply imbedded between ridged intervals; the flavor acid, with slight perfume." Examples, Roseberry, Methven Scarlet or Methven castle, Old Scarlet, &c.

Class II. Black Strawberries. The general character is, "leaves rugose, [or swollen between the veins,] pale green, and small; fruit conical, with a neck; seed slightly imbedded; flavor rich and highly perfumed." Examples, Downton, Pitmaston black, Elton seedling.

Class III. Pine Strawberries. "Leaves almost smooth, dark green, of firm texture, with obtuse serratures; flowers large; fruit large, varying from almost white to purple; seeds prominent on a smooth surface; flavor sweet and often perfumed." Examples, Keen's seedling, Carolina, Mulberry, Southborough seedling.

Class IV. Chile Strawberries. "Leaves very villous, hoary, with small leafets of thick texture, with very obtuse serratures; fruit large; seeds prominent; flesh insipid in the True Chile, and more or less so in the varieties which have originated from it." Example, Wilmot's Superb.

Class V. Hautbois. "Leaves tall, pale green, rugose; scapes tall and strong; fruit middle-sized, pale greenish white, tinged with dull purple; flesh solid and musky."

Class VI. Green Strawberries. Characterised as the *Fragaria collina & F. viridis* of botanists, the varieties of which are little known and not of much value.

Class VII. Alpine or Wood Strawberries. Characterised as *F. semperflorens & F. vesca.* Examples, Red and White Alpine, Red and White Wood.

The following are descriptions of some of the best varieties:

Old Scarlet, Early Scarlet, or Early Virginia; fruit middle-sized, globular, of a very light scarlet color, seeds deeply imbedded, flesh pale, and very highly flavored. Although not a great bearer, yet highly deserving cultivation, as it ripens several days earlier than any other.

Grove End Scarlet, or Atkinson's Scarlet. Fruit large, roundish, somewhat hemispherical, brilliant scarlet, flesh pale, with an agreeable sub-acid flavor. Remarkable for the wide serratures of its leaves. A good bearer and early.

Roseberry. Fruit large, conical, with a very short neck, dark red; flesh firm, pale scarlet, with a rich flavor. An abundant and long-continuing bearer.

Methven. Fruit very large, round, sometimes coxcomb shaped, bright scarlet; flesh pale and not firm; flavor good, but not so rich as the preceding. Sometimes weighs upwards of half an ounce.

Downton, or Knight's seedling. Fruit large, with a neck, often assuming a coxcomb shape, dark purplish scarlet; flesh scarlet, firm, with a rich, juicy, and high flavor; a good bearer, ripening late. Requires good culture.

Elton seedling. Fruit large, ovate, often compressed or coxcomb shaped, and not filled out at the end of the berry, shining, dark red; flesh fine deep red red, firm, juicy, with a sharp rich flavor; fruit on long footstalks, frequently projecting above the foliage; ripens late; must be allowed to remain on the stem till it becomes very dark colored, to avoid too great acidity.

Keen's Seedling. This variety requires protection in the winter by a covering of straw, and is somewhat difficult of cultivation; but when it succeeds well, it is an abundant bearer, and has a very fine appearance. The fruit is very large, ovate, the largest of a coxcomb shape, dark shining red, especially next the sun; flesh scarlet, firm, of a rich and agreeable flavor; ripens rather early in the season. It is considered the best strawberry for forcing.

Wilmot's Superb, is only to be recommended for its great size; the fruit is round or irregularly ovate, sometimes compressed, pale scarlet, shining; seeds projecting; flesh pale red, nearly white, and wooly at the center; flavor moderate.

Prolific or Conical Hautbois, Hudson's Bay, double bearing, Musk, or Spring Grove. Fruit medium size, (large for this class) conical, very dark dull red, inclining to purple on the sunny side; flesh greenish, rather dry, but of a rich and highly perfumed flavor. An abundant bearer. Considered by some as the finest of all strawberries. According to the London Horticultural Society's Catalogue, "of all strawberries, the hautbois are the most variable. They certainly retain a general character, from which they naturally do not depart; but constancy of character in varieties, denominated as distinct, is but little to be depended upon; the fruit will occasionally change from globular to ovate, and the contrary, while fertile plantations will produce runners that may, perhaps, be sterile, and seedlings, many of which will certainly prove so. The latter ought to be carefully looked after and extirpated, which can be only effectually done in plantations newly formed while the plants are single, and at the time they are in blossom. It is also necessary to observe, that in all the sorts of hautbois here enumerated, there exist both the *Prolific,* and also these sterile plants commonly called *Males,* which have *long stamens.* The latter ought, in all cases, to be certainly destroyed." The sterile flowers are distinguished in all the varieties of the hautbois by their long stamens, except in the *Prolific,* which also has long stamens; from *this* they are distinguished by their smaller flowers, and imperfect fructification. Thompson, in Loudon's Encyclopedia of Gardening, says: "I believe there is no such thing as distinct plants of male and female hautbois. Stamens and pistils are to be found in either a *perfect* or *imperfect* state in every individual flower. Imperfection generally takes place in the pistil, together with the receptacle. To see that these are sound is all that is necessary to be attended to."

Red Alpine. Fruit, the largest of this class, conical, red; flesh sweet and high flavored. Bears abundantly in suitable soils and situations, from early in summer till late in autumn. I have seen a dish of them on the table picked the first day of the twelfth month (December.) The *white alpine* is similar to the preceding, except the fruit is white instead of red. These two varieties are frequently grown promiscuously together.

The Red Wood and *White Wood* resemble the alpine, but the fruit is smaller and rounder.

The Bush Alpine is distinguished by not spreading by runners. It is not so good a bearer as the red and white running alpine, nor is the fruit quite as good.

The following is nearly the order of succession in which the preceding varieties ripen, except the alpines which continue in succession.

Old Scarlet,
Grove End Scarlet,
Roseberry,
Keen's Seedling,
Methven,
Prolific Hautbois
Wilmot's Superb
Downton,
Elton Seedling.

A. J. Downing, in Hovey's Magazine, says, "The finest of the large English varieties of this fruit which we cultivate here, is the Bishop's. It is remarkably large, a most abundant bearer, and of superior flavor. It appears to us to unite all that can be desired to constitute a truly fine and delicious strawberry." Hovey's Seedling, for size, productiveness, and excellence of flavor, is recommended as one of the very finest by those who have thoroughly tried it.

Modes of Propagation. Strawberries multiply rapidly during their growth, by runners from the parent plant, which, rooting at every joint, form numerous new plants. To form new plantations, these need only to be removed to the bed where they may flourish. This work may be done early in autumn, or early in the spring; the former is best. If done in autumn, care should be taken that the plants are not thrown out by frost, especially on heavy soils. This may be prevented by treading the soil closely about the roots before the ground becomes frozen. Such beds will bear some fruit the summer following the transplanting, and will furnish an abundant supply the second season. The alpines produce well in one year.

The only exception to this mode of increasing, is the Bush Alpine, which never increases by runners; the only way for this variety is dividing the root, and transplanting as above described.

Strawberries are only propagated from seed for producing new varieties, except the woods and alpine, which, says Loudon, "come regular from seed, and bring a finer fruit than from offsets."

Soil and Situation. The best soil for the strawberry is a deep rich loam, though it will succeed and bear on any soil which is fertile. The situation should be open and well exposed to light and air. It succeeds very well when planted in single rows as edgings. The alpine and wood strawberries may be placed in a more shady situation than the others; it is during hot and dry seasons of the year that they are intended chiefly for bearing. They are consequently well adapted to edgings for shrubbery. When the soil is rich, the advantages of employing strawberries for edging is great, as they succeed in such soils much better when in single rows than when crowded together in a bed.

General Culture. A very general error is to plant too near together, especially if the soil be fertile and well prepared. *Thorough* culture is by far the best, at the same time that it is, ultimately, the *cheapest* method. It is true that on common rich garden soils, a bed may be transplanted which will produce fine fruit and good crops with little care after once prepared; we have known beds to yield plentifully which were almost untouched for years, not even having been weeded, the thick growth of the strawberry keeping down in a great measure, every thing else. But by the following thorough mode, or one similar, practiced by Keen of Isleworth in England, who first raised the celebrated variety known as Keen's seedling, the greatest amount of fruit may doubtless be obtained for the care and labor expended, while the quality is greatly superior. The soil for this mode of culture, should be plowed or trenched deep, and mixed with decomposed stable manure; if the subsoil be somewhat sterile, it should not be thrown to the surface. The ground should be prepared at least a month before transplanting. "The best way," says Keen, "to obtain new plants, is, by planting out runners in a nursery, for the express purpose, in the previous season; for it is a very bad plan to supply new plantations from old plants." The distances of the rows asunder are about two feet, and eighteen inches in the row, for the large varieties, as Methven and Keen's seedling; the smaller varieties may be a little nearer. This distance may seem too great, but it is necessary for sun, air and culture. "These large distances," says Keen, "I find necessary; for the *trusses of fruit in my garden ground are frequently a foot long.*" This fact is a sufficient proof of the excellence of his mode of culture. "After the beds are planted, I always keep them as clear of weeds as possible, and on no account allow any crop to be planted between the rows. Upon the growing of the runners, I have them cut when necessary; this is usually three times in each season. In the autumn I always have the rows dug between; for I find it refreshes the plants materially; and I recommend it to those persons to whom it may be convenient, to scatter in the spring, very lightly, some loose straw or long dung between the rows. It serves to keep the ground moist, enriches the strawberry, and forms a clean bed for the trusses of fruit to lie upon; and thus by a little extra trouble and cost, a more abundant crop may be obtained. A short time before the fruit ripens, I always cut off the runners, to strengthen the root; and after the fruit is gathered, I have what fresh runners have been made, taken off by a reaping hook, together with the outside leaves around the main plant, after which I rake the beds, then hoe them and rake them again. In the autumn, unless the plants appear very strong, I have some dung dug between the rows, but if they are very luxuriant, the dung is not required; for in some rich soils it would cause the plants to turn nearly all to leaf. I have also to remark, that the dung used for manure, should not be too far spent; fresh dung from the stable door is preferable to spit dung, which many persons are so fond of." The writer has found great advantage, both as a matter of economy of labor, and for the increase of productiveness, to set out strawberries in long rows about two or two and a half feet apart, and ten inches apart in the rows, so that they may be cultivated with a horse. The difference between suffering a bed to become thickly matted over, and keeping the plants or hills well hoed separately, is almost incredible to one who has not seen it. A half pint of the largest and finest strawberries from one hill is easily thus produced.

The strawberry, though never diœcious, from an imperfection in the fructification contains fertile and barren flowers in most varieties, except the Alpine and Wood. The barren plants are the most vigorous and productive of new plants; and in some cases will overrun and crowd out the fertile ones. Hence the unproductive state of many beds of fine varieties where this has taken place. A few sterile plants, perhaps one-tenth, are necessary to cause fertility to the others; for the proper management of which, see an article on the culture of the strawberry on page 247, current volume of the Cultivator.

In England, where the climate is much more moist and less hot than here, decided advantage is found in watering strawberries during hot weather.

Beds, once prepared, generally continue in a good bearing state from three to five years. J. J. T.

CAUSE OF ERGOT.

Eds. Cultivator—I infer from your article on ergot in a former number of the Cultivator, that the late investigations of M. Debourge on the cause of this curious phenomenon, have not fallen under your notice. I therefore take the liberty to send you an account of them from the Home Examiner.

The grains in which it appears first, soften, become very friable, and undergo a species of fermentation, exhaling at the same time a very disagreeable smell. Their outer surface is now seen to be intersected with many small furrows, moistened by a whitish, viscous and saccharine liquor, which reddens turnsol-paper. This liquor exudes in greatest quantity from the summit of the grain, where it agglutinates together all parts of the inflorescence. At this period, the perisperm becomes every where destroyed, except towards the summit, where it is the cause of the greater consistence of the ergot. The outer surface, previously white, now becomes brown, and afterwards black, first in the inferior portion, and then throughout the rest of the grain. The furrows disappear, the grain elongates, and it soon emerges from its outer covering (the glume) in all its distinctive characters. Thus, the formation of the ergot presents two distinct epochs; the first comprising the destruction of the perisperm, the softening, and the saccharine fermentation of the grain; and the second, the period of its assuming its deep color and morbid enlargement.

It was formerly supposed that the ergot was the result, jointly, of a mal-development of the germ, and the presence of a parasitic fungus, which, though still hypothetical, has been denominated by some French authors, *sphacelia segetum.* But what was considered by these to be the fungus at the superior extremity of the grain, is now shown by M. Debourge to be only the undestroyed portion of the perisperm, with some part of the hairy epitheluim, the decayed stigmata, and sometimes anthers entire, agglutinated together by the viscous discharge. M. Debourge naturally asks how it is that a parasitic body should become marked with a similar longitudinal wrinkle, and covered with the same hairy epitheluim, as the grain? The ergot invariably begins to form some time after the inflorescence of the rye and other gramminæ, and for the most part on the grains which are most tardy in their development. N. N. D.

We ought either to be silent, or to say what is better than silence.

CONTINUANCE OF MILK IN COWS.

MESSRS. EDITORS—It certainly would be a very great advantage to those who wish to keep a cow or cows, solely for their milk, if any feasible method could be adopted by which cows could be made permanent milkers, or their owners, particularly those who live in cities, be saved the trouble and inconvenience of their breeding. There are two ways in which this seems practicable. The first method is to keep the cow in milk, from the bull, by constantly stabling her, after her first and second calf, and in this state, milked regularly and well fed, she will continue to give milk for two or more years. She usually ends, however, by becoming too fat for profit as a milker, her milk gradually failing, and she then goes to the butcher. The large dairies of London, have their cows treated in this manner, and in practice it is found far preferable to the old one, of having them *"come in"* annually.

There is another method of obtaining constant milkers which has been extensively practiced in France, and known to some extent in this country. This is by *spaying the cow* some four or six weeks after calving, and thus by preventing impregnation, securing the cow in milk for several years. In the London Veterinarian may be found a paper by M. Rogere of Bordeaux in France, who had for many years been engaged in a series of experiments on this subject, that had been eminently successful. The cows operated upon were of various ages, some quite old. The operation of spaying was followed with a restricted diet to prevent the tendency to inflammation. This had the effect of reducing the quantity of milk for a few days, but the flow soon returned, and continued unaffected for a long time. No danger was incurred by the operation when skilfully performed, and when from age or failure of milk, it became desirable to make beef of the animal, she was found altogether superior for that purpose to the unspayed ones.

In one of the earlier volumes of Ruffin's Farmer's Register may be found a paper on spaying cows or heifers, not only for milk, but for feeding. Mr. Tabb of Virginia, under whose superintendence the operations were conducted, confirms the representations made of the value of milch cows so operated upon, but thinks it not less essential or important where cows or heifers are to be fed. The following extract is from Mr. Tabb s paper. "The operation is performed on heifers not intended for milk when they are about a year old, and with the single precaution of keeping them entirely from food or water during twenty-four or thirty-six hours previous—is not attended with the least risk—is performed in the same way, and may be done by any person in the habit of spaying pigs. They go to their food immediately after, and require no attention. We select the most indifferent heifers to spay, which is one way to improve the stock. You increase the size amazingly. They gradually become as large as ordinary oxen—are easily kept—make the finest beef—and as they are not in perfection until six or seven years old, we work them after three or four, to make them gentle, and for that purpose, consider them superior to the ox."

The practice of working milch cows is common in Germany, as appears from the accounts of various travellers in that country; and teams of spayed heifers have carried off prizes at the plowing matches of Agricultural Societies in England. The suggestion made above, by Mr. Tabb, as to the practice of spaying having a good effect in the improvement of stock, is an important one. If the breeders of stock could so far forego the hope of immediate profit, as to be willing to submit all inferior, or part blood bull calves to castration, and all inferior heifers to spaying, it is evident the chances of breeding inferior animals, would diminish rapidly.

Mr. Winn, keeper of an extensive hotel at Natchez, communicated to Judge Peters, of Pa., the result of experiments made by him in spaying cows for the purpose of securing permanent milkers. It appears from the paper as given in the Transactions of the Penn. Ag. Soc. that he had two cows, which after being spayed, gave milk constantly for three years each. He preferred cows that had produced two or three calves, as the bags of such would be more capacious, than if spayed after the first calf. I hope some of our breeders or farmers will try this experiment, since if successful, there can be no doubt such cows would command greatly advanced prices in places where cows are kept for their milk alone.

Ontario, Oct. 1844. A FARMER

IRRIGATION, &c.

MR. TUCKER—As far as my information has extended, very few attempts to adopt a systematic course of irrigation, even on a moderate scale, have been made by the farmers in Massachusetts, at least in this vicinity. Some years since, Gen. Wm. Hull, residing at Newton, attempted to carry on a course of irrigation, by bringing a stream of water which took its rise in his estate, into his garden and grass lands; by constructing a bank of sods on each side of it, to sustain the stream, and by merely letting down one or two sods from it, whenever he wanted to bring the water on to his land.

According to the information which he gave me, his grass lands were rendered much more lucrative and valuable by means of the irrigation. Land, which previous to it, produced a worthless grass of little or no use, was made to yield one and two tons of good grass to the acre. I was informed that he was obliged to abandon the scheme from the great injury which it caused to one of his neighbors.

EXTENT OF IRRIGATION NEAR ROUSSILLON.—It is said that there is an extent of land, 10 leagues in length by 6 leagues in breadth, all of which can be regularly irrigated by means of small canals and water courses, which are cut in every direction. The distribution of the water is regulated by law. The habitations are still, for the most part, congregated in small towns and villages, but here and there a detached house is to be seen. The plain is covered with trees, which border the water courses in every direction. Among these, the Lombardy poplar is conspicuous.

CULTIVATION NEAR SEVILLE.—The principal exports from Seville are bitter and sweet oranges and lemons. The sweet oranges are more cultivated than the bitter. The orange groves are estimated of great value. The trees are planted at the distance of 21 or 22 feet each way, and in good years, will yield from 1,000 to 1,200, and even 1,500 oranges each. They are irrigated every ten days, and the soil is disposed in small trenches to allow the water to spread. WM. JENNISON.

Cambridge, Mass., Oct. 12, 1844.

KILLING BUSHES—"OLD OF THE MOON IN AUGUST."

On page 42 of the February number, you give Mr. A H. Hallock's method of cutting briers, "in the old of the moon in August, and the sign in the heart." Now, while it is true that agriculturists have to do with the earth and its productions, rather than with the moon and its changes, yet it is a *fact*, that the *time* specified, (I know nothing about the location of the sign,) is the very best time in the year to kill not only briers, but all kinds of bushes. I have tried it frequently, and they will sprout less, and the sickly feeble shoots are easier killed if cut "in the old of the moon, (or between the last quarter and the new moon) in August," than at any other time in the year. The reason probably is that the sap moves sluggishly, and is then mostly above ground, leaving the roots with less of the reproductive power than at any other season. Of course they are more apt to die. It is well known that bushes cut at some seasons, throw up a very thrifty second growth. This will be the case when the most sap is in the roots, or at least when the sap is in most rapid circulation.

Now whether this be the true explanation or not, it is yet a fact tested by much experience, that the very best time to kill bushes, briers, &c., is "in the old of the moon in August." And wise men, with no disposition to be carried away with "moon struck theories," will nevertheless govern themselves accordingly. H

Ohio, Oct. 1844.

PEDIGREES OF COL. RANDALL'S MERINO SHEEP.

Editors Cultitator—I often receive inquiries, and sometimes from editors, in relation to the pedigrees of my Merino Sheep. Though not voluminous, they are too much so, to be daily copied for such applicants.

I will furnish such pedigrees to any editor who will accompany his request with a distinct intimation that he will publish them as they are forwarded, entire and unmutilated; or to any other individual to whose published request, an editorial pledge of the same kind is appended.

Yours truly, Henry S. Randall.

Cortland Village, Oct. 12, 1844.

HOLLOW HORN.

It is familiar to farmers that when any animal has been subject to this complaint, that upon the return of winter the complaint will return again frequently. The complaint may often be kept off in such cases, simply by wrapping the horn with woollen cloth or sheep skin with the wool turned inwardly, and keeping it well bound on through the winter. As soon as the horn begins to become carious, it becomes internally sore, and it sometimes happens that all efforts to save an animal afflicted with this complaint are ineffectual, merely for the want of wrapping the horns, and thereby imparting that warmth to the parts intended to be healed, which all know is necessary for any wound or sore in winter in order to heal it. C. D.

PEPPERIDGE TIMBER.

Pepperidge is occasionally used to make an ox yoke, but more generally is consigned to the fire as useless for any other purpose—whereas it ought to be known that it is one of the best, if not quite the best article for bedsteads which grows in the northern states. It works smooth, and when oiled and varnished, or when stained and varnished, shows the curl of the wood and looks almost as well as curled maple. C. D.

MONTHLY NOTICES.

Sheep on the Prairies.—The Western Cultivator, printed at Indianapolis, Indiana, says that up to the 25th of August, 25,000 sheep had passed through that place on their way to the Western Prairies. In the same paper, we find a communication from Geo. Flowers, Esq. of Albion, Ill., in which he states that he has just returned from a three months tour in Virginia, Pennsylvania, Ohio and Indiana, whither he had been to select and purchase eighty of the best rams and 3,600 ewes. He urges the formation of a "Western Wool Growing Company," by whom a permanent system of improvement in sheep, might be undertaken, which would prove alike profitable to the Company, and beneficial to the public. The subject is worthy of consideration.

Winter protection for Strawberries.—A writer in the Boston Cultivator says he has tried covering with manure, leaves, sea weed, boughs, and "all other kinds of loose covering;" but they did not answer. The leaves would blow off, and mice would get under and destroy the plants. He recommends cleaning the beds well from weeds, and about the last of October or first of November, put on from one to two inches of rich loam or old compost, made with muck, and a small quantity of manure, such as has no seeds of weeds and rake it in equally, being particular to have the plants covered so as only to present the centre leaves; this protects the roots and tops, and in the spring the beds and borders are all ready for them to grow, and will not need any cultivating until the plants are in blossom, and until the middle of May, and then with a fork about six inches wide, with three round stiff prongs 10 inches long, blunt and round at the end of the prongs, stir the soil.

Destruction of the Aphis and Sheep Ticks.—A writer in the Mass. Plowman says he has succeeded well in killing the aphis or plant louse on trees and shrubs, by smoking them with tobacco, mixed with a small quantity of brimstone. The smoking did not apparently injure the leaves or stem. His process of smoking is simply to take one of those boxes in which ground mustard comes packed, (say half pound boxes) in the lid of the box, have a tube soldered in, of such size as will fit on to the nose of a bellows; in the bottom of the box put another tube similar to the one in the lid, fill the box with tobacco, (no matter how poor) turn into the box a little water to prevent the tobacco from burning too rapidly, put in a coal of fire, fix on the lid, which is attached to the bellows nose; you can then smoke to your liking.

We have often smoked sheep with an apparatus like this, to kill ticks. In the winter or spring when the wool is long, and the weather is too inclement to justify dipping sheep in a liquid, smoking is the best plan that can be resorted to, and if well done, is quite effectual. Smoke seems to be very deadly to insects in general, and we do not see why it may not be used to good advantage in killing plant lice.

Three hundred spinning wheels in operation on Boston Common.—In an Address delivered before the Caledonia (Vt.) Agricultural Society, by Henry Stevens, Esq., in which the importance of affording suitable encouragement to domestic manufactures, is very forcibly set forth, the author says:—"We find in the American Annals, an account of the anniversary of a society for encouraging industry, held 1753, on which occasion Boston common presented a novel sight. In the afternoon, about 300 young female spinsters, decently dressed, appearing on the common at their spinning wheels, the wheels were placed regularly in three rows, and a female was seated at each wheel; the weavers also appeared cleanly dressed, in garments of their own weaving. One of them working a loom on a stage, was carried on men's shoulder's attended with music; an immense number of spectators were present at this interesting spectacle. The Rev. Dr. Cooper preached a discourse, and a collection was made for the benefit of the institution. Ladies of Boston whirling three hundred spinning wheels! These were afterwards the matrons who refused British tea, and who never saw a piano. Wonder if a thousand delicate ladies could not now be seen in the city, at their pianos, where one old fashioned rosy damsel could be found at the healthy exercise of the spinning wheel?"

Mr. Stevens adds—"The woman who manufactures for her own household, and one piece of goods to sell, does more to retain the solid coin in our State, than all the banks or the greatest financiers."

Good Advice.—"A Burke Planter," in the Southern Cultivator, says—"We must begin at once the practice of frugality and economy. We must combine farming with planting; produce all that is practicable at home, and no longer permit ourselves to be furnished with any of the means of support or of labor from beyond the mountains. But first of all, we must turn our undivided attention to our own business; study fully the theory of our pursuit, and practically apply its principles. We must test the discoveries and improvements that are constantly being made; and by original experiments, add to the knowledge of the country. It is erroneous to suppose that planting is an easy and indolent vocation. Properly pursued, it is one of the most arduous; demanding untiring activity and energy to regulate the negroes, divide and task them judiciously, designate work, mode of doing it, and to observe from day to day that it is correctly done; attend to stock; the manure pit; the experiments going on; with many other matters depending on the variety of his collateral works. And exacting constant mental exertion to acquire a knowledge of all the physical sciences, so indispensable to enlightened and successful planting, and to keep pace with the improvements in the country; and a cultivated judgment, to investigate the thousand theories that are broached, to experiment, to compare facts, to combine and to apply them. And while the overseer may be exempted from very much of the mental labor of the owner, his physical activity should be increased· his time, his efforts, and his thoughts, should be devoted to the welfare of his employer, and he should take the deepest interest in every operation tending to promote it."

Making Compost.—The great art of obtaining good crops, consists in the saving and application of manure. Of this truth, very many farmers are beginning to be convinced, and they are contriving various ways to save and increase their manures by the addition of such materials as will absorb those portions which have hitherto been wasted. The N. E. Farmer thus describes the course pursued on the farm of J. S. C. Green, Esq. at Watham, Mass. by Mr. R. Murray:—"The urine from the cattle is all saved and conveyed to a cistern underneath the stable, that holds about nine hogsheads. The floor of the stable is sprinkled with gypsum, every morning after the cattle have been turned out, and the stalls cleaned. The solid manure is also thrown into the cellar below, which is accessible to the hogs. The manner in which the urine is disposed of is as follows: As often as the cistern is filled, a lot of well pulverized meadow mud, or peat, which had been exposed a year, containing 18 common cart-loads, is made into a broad flat bed, with the sides raised up so as to retain the liquor; into this basin the contents of the urine cistern is discharged. As the liquor soaks into the peat, six bushels of ground plaster is spread over the surface, to fix the ammonia; the whole bed is then thrown up into a compact form, four or five feet high; stakes are thrust down into the middle of the bed, that some idea may be formed of the temperature of the heap from time to time, which is examined often, that the mass may not get overheated and burnt, as it may be very much injured or be made nearly worthless; by withdrawing the stake, an experienced person will ascertain very nearly the state of the bed by the heat of the stake; but this is not left to uncertainty; a thermometer is inserted in the hole repeatedly, and when it indicates 90 degrees, the fermentation is deemed sufficient; the heap is then shoveled over, and spread a little, and having remained a week in this state, is ready for application, or to be put under cover for future use. Compost from night soil is made in the same way."

Fattening Hogs.—Fatting hogs must now have as much as they can eat; they should be urged forward as fast as possible before cold weather comes. They will gain more in one week now, than in two weeks three months hence. There is much in the garden now that may be added to the mush for hogs. Pumpkins, refuse squashes, cabbages, apples, potatoes, &c., may be boiled up or occasionally fed out raw, just for variety—for pig is a gentleman that prefers a variety of dishes and a good dessert. Give him, also, your greenest corn, cutting up cob and corn and stalk, an inch or two long. He will eat up all clean, while they are novelties in his pen. After all, your main stay for fatting him up, is grain of some kind. Indian corn ground, is best. Buckwheat comes next; rye is good, mixed with Indian; and oats always make the breakfast relish well. You should bear in mind to let your hogs have charcoal every year; therefore we name it that you need not suppose what was said and done about it last year, will answer for this. A little brimstone, too, is good—and brimstone need alarm no one since we keep it to whiten straw with.—*Mass. Plowman.*

Apple Pomace.—Let this not be wasted. If considered of no value as food, let it be incorporated with the materials in the hogs' yard, or put in heaps, spreading lime plentifully over each layer of a foot or less of pomace, and, mixed with other manure previous to being applied in the spring, it will well repay for whatever care has been bestowed upon it. We have known cases where it has been thrown away as worthless—the farmer declaring that as food it was hurtful to his stock, (probably from being allowed to eat too much of it,) and that for manure it was of no sort of value, being "poor, sour stuff." Its sour quality is the sole cause of it worthlessness as manure: get rid of this—neutralize it—as you can by the process above recommended, and it becomes a fertilizer of soil and a nourisher of vegetation.—*N. E. Farmer.*

"In an experiment in Maryland in feeding hogs with shelled corn, and half the quantity in meal made into mush, those pigs fed on the mush, weighed five pounds heavier in a given time, than those fed on the raw corn, and their coats much better."

Madder.—The amount annually paid by this, to foreign countries, for this article, used in dyeing, is perfectly astonishing. Mr. Ellsworth, in his report, estimates the amount annually imported at five thousand tons! The wholesale price is now from fifteen to eighteen cents a pound. At fifteen cents the annual importation amounts to the round sum of one and a half millions of dollars, for an article that can be produced as good and as cheap at home. This is not theory. Mr. Joseph Swift, of Erie county, Ohio, planted nine acres, and allowed it to grow four seasons, and the crop was harvested and sold in 1842, and an account given of it in the New Genesee Farmer, for March, 1843. The product of the best land was two thousand pounds per acre, (and he is certain that with his present knowledge he can produce three thousand pounds per acre.) The labor required per acre to raise and prepare the crop for market, was from eighty to one hundred days' work, and his figures show, after paying for the labor and use of land, a nett profit of two hundred dollars per acre. Although the crop requires several years to arrive at maturity, and needs considerable knowledge and labor, yet the value of the crop is greater in proportion to the cost and the quantity of land it occupies, than any other farm crop that can be named. Our farmers should give more attention to the cultivation of this article, while the profits are so great.—*West. Farm.*

Shovel in the Muck.—The present time is favorable for those who have a *muck mine* and are desirous to avail themselves of its benefits. The effects of decomposed muck are now so well understood, that there are very few farmers who are not desirous of laying in a good store of it for future use. No better raw material can be found for hogs to operate upon and convert into the best of manure. A worthy old farmer of our acquaintance, makes it a rule to hire a hand for a month in the fall—furnish him with a cart and yoke of oxen, and keep them all at work hauling muck. In this way he lays in a large supply, and in the spring has a large quantity of excellent dressing for his land. He says he cannot invest the amount of the man's wages and service of cart and oxen in a more profitable way. Perhaps some of our readers who have never thought much of this plan may be induced to adopt it.—*Maine Far.*

A good plan of making Manure.—A writer in the Southern Planter recommends the following plan of making manure, of which we highly approve:

"Have a pit thirty or forty feet square, and two or three feet deep, with a good bank around it. In this pit let the materials, viz: oak leaves, pine tags, earth, &c., be put in suitable layers; on which throw all the slop-water, soap-suds, yard-sweepings, as ley, contents of chambers, and in short, every thing that can be conveniently got together. It may be at any convenient distance from the kitchen, so that the slop-water, soap-suds, &c., may be conducted to it by a trough. Be sure that no water gets into it in any other way. If at any time it should become offensive, start your teams immediately and cover it with *sand* or earth sufficient to prevent the escape of any effluvia." We say we approve of this plan of making manure; but we think it might be improved by sowing plaster over each layer of the materials of which it is composed, and occasionally, say at intervals of two or three weeks, sowing it over the surface, by which means all unpleasant smells would be avoided, and the enriching gases saved to fatten the land. Any pit which may be made for the purpose should be protected from the weather.—*West. Farmer.*

FOR SALE.

15 SAXONY BUCKS, raised upon the farm of the late Elam Tilden, can be had at reasonable prices, by applying to Col. Tanner, on the premises. M. Y. TILDEN, P. M.

New Lebanon, Columbia Co. N. Y. Sept. 7, 1844—1t.*

IMPROVED STOCK.

THE subscriber has now on hand and will sell, at fair and reasonable rates, several Durham cattle, consisting of cows, heifers and calves; also two bulls, a cross of the Durham and Ayrshire stock.

SOUTH DOWN SHEEP.—Two yearling bucks, several buck lambs and 16 ewes from 3 to 4 years old.

All letters, (post paid,) will be punctually attended to. Address

C. N. BEMENT,

September 1, 1844. *American Hotel, Albany*

CONTENTS OF THIS NUMBER.

Address of Dr. Beekman, 333.
Address of Mr. Bancroft, 346.
Agricultural Exhibitions, 332.
Artichoke, Culture of, 338.
American Institute, 333.
Breeding Rabbits, 343.
Cattle Shows—in Vermont, 331—N. Y. State, 335—Rensselaer Co. 337—Massachusetts, 339—Monroe Co. 354—Madison Co. 333.
Codding's American Plow, 351.
Condensed Communications, 336.
Connecticut Cattle, 333.
Crops in Mississippi, 331.
Disinfection of Fecal Matter, 351.
Ergot, Cause of, 356.
Foreign Intelligence, 324, 335.
Fruit Trees, how cultivated, 353.
Hall's Threshing Machine and Horse Power, 344.
Horse, Cure for Splints, 337.
Improvement of Land, 334.
Insects, Power of Smell in, 340.
Judge Buel, Eulogy on, 343.
Letters—from Scotland, 334—from Down East, 348.
Manure, Remarks on Saving, 342.
Massachusetts Premium Farm, 341.
Monthly Notices, 329, 358.
Mustard Seed, 354.
New Publications, 331.
Niagara Falls, power of, 345.
Nut Grsss, to Destroy, 353.
Plowing in Clover, 343, 352
Potatoes, Disease in, 330.
Poultry, Feeding, 331.
Planting Trees, 332.
Rensselaer Institute, 337.
Saleratus, a substitute for Saltpetre, 345.
Sheep—full blooded Merinoes, 338—the Saxons and their Crosses, 350.
Stoves, their Deleterious Effects, 350.
Strawberry, Culture of, 355.
Swine, Cooking Food for, 340.
The Ox, Value of, 342.
Tiles for Draining, 349.
To Color Scarlet, 349.
Wiard's Plowing Machine, 345.
Woodlands, care of, 332.

ILLUSTRATIONS.

Hall's Threshing Machine, 344.
Hall's Horse Power, 344.
Wiard's Plowing Machine, 445.
Draining Tiles, 349.
Codding's American Plow, 351.

☞ ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion.

SHORT HORN DURHAMS FOR SALE.

ONE or two Heifers three years old, in calf by the prize bull Meteor, and one yearling and one two year old Heifer. The two latter were got by the imported bull, Duke of Wellington—also a fine bull calf, now about 6 months old got by Meteor. **GEO. VAIL.**

Troy, Oct. 25th, 1844.

HIGHLAND NURSERIES,

NEWBURGH.

THE subscribers, from their extensive nurseries, offer for autumn planting, all the finest varieties of fruit trees suitable for this climate. The constant practice here of proving the sorts by bearing specimens enables them to guarantee the *accuracy of the different fruits* cultivated; and the soil and exposure of the nurseries are such as give the trees peculiar advantages in point of vigor and hardiness when transplanted.

Ornamental trees and shrubs, Roses, Grape Vines, Raspberries, Strawberries, Washington Thorns and Buckthorns for hedges, together with all other trees and plants for hardy culture. Also Downing's Colossal Rhubarb, a new variety, larger and more succulent and tender than the Victoria. $1 each.

Descriptive priced Catalogues of the whole collection furnished by mail on post paid application. A liberal discount made on wholesale orders. Address **A. J. DOWNING & Co.**

Newburgh, Oct. 1844.

FARM FOR SALE.

THIS farm lies in Alexandria County, D. C., six miles from the Washington Market House, and three and a half from Georgetown. It contains two hundred and thirty-nine acres; from seventy to eighty in low land meadow, and from eighty to ninety in excellent timber, with a comfortable dwelling, good barn, ice house and dairy. Lime, which has been used already with fine effect, can be procured very cheap within three miles. It can be conveniently divided into two farms and will be sold upon accommodating terms as to price and credit. Apply to **T. L. RINGGOLD.**

Washington City, D. C. Oct. 1844 1t *

SOUTHERN GRAPE VINES, WINE, AND DIVERS NURSERY ARTICLES.

THE subscriber has a pretty large supply of more than 100 choicest American varieties of well rooted grape vines, (mostly Scuppernong,) at from 10 to 30 dollars per hundred according to age, size, &c. Cuttings of such as succeed from them (the Scuppernong do not, though well by grafting,) at rates of 30 dollars per thousand. Some 20 barrels (not including a new large vintage,) of best pure American wines at medium prices of a dollar a gallon. And divers nursery articles peculiarly fitted for southern culture at lower than northern prices. Important for more southern patrons to send orders (with remittances) soon. **SIDNEY WELLER, P. Master.**

At Brinckleyville, Halifax covnty, N. Carolina, Nov. 1. 1t.

SUPERIOR FARMS FOR SALE.

TWO superior productive farms in Rensselaer county, 2 miles from Hoosic Falls. The farms are about one hundred acres each, and so situated as to be conveniently worked as two or one farm: each having the necessary buildings, and being judiciously divided into pasture and tilled land, all recently fenced with entire new materials in the most durable manner. The land is all of the first quality, and its present state of cultivation would bear a good comparison with any land in the county. These Farms will be sold together or separate, on terms most accommodating as to price and credit. Apply to

Lansingbnrgh, July 16, 1844. **ALEXANDER WALSH**

RENSSELAER INSTITUTE.—TROY.

THE Winter Term of this Institution will commence on Wednesday, the 6th of November next.

The following is a brief view of the branches pursued in the Institute:

1. Theoretic Mathematics.
2. Practical Mathematics, with special application to Surveying, Navigation and Civil Engineering.
3. Natural Philosophy, including Mechanics, Hydrostatics, Hydraulics, Pheumatics, Optics, Electricity, and Magnetism, with their applications.
4. Chemistry, experimental and practical. This science will be taught and illustrated with particular reference to Agriculture and the Arts.
5. Natural History, including Botany, Geology, Mineralogy and Zoology.
6. Occasional lectures will be given on subjects pertaining to Taste, Morals, and the Christian Religion.

Besides the courses of lectures by the Faculty, each student is required to give lectures on the branch of science which he is pursuing, illustrating his subjects—in Mathematics and Natural Philosophy by surveys, measurements, observations or experiments of his own—in Chemistry with experiments performed by his own hands—and in Natural History, as far as possible, by specimens of his own collection; and he thus acquires theoretic and practical knowledge, as he is explaining it to others. In this method of instruction, it is hardly possible for a person to pass through the appointed lectures, illustrations and experiments, without attaining an intimate and familiar acquaintance with the studies prescribed. The learner becomes himself the teacher, and he must first learn in order thus to explain his subject to others.

Rev. Dr. ELIPHALET NOTT, President.
Rev. N. S. S. BEEMAN, 1st Vice-Pres.
GEORGE H. COOK, } Professors.
JOHN WRIGHT, M. D, }

The price for tuition will be $15 per term—two terms in the year—one commencing on the first Wednesday in November, and continuing 20 weeks, and the other commencing on the first Wednesday in May, and continuing 22 weeks. Those who perform a course of experiments in Chemistry with their own hands, are charged $8 extra for chemical substances and apparatus, unavoidably destroyed.

Board can be had from $2 to $2.75 per week.

Troy, Oct. 21, 1844. 1t.

FRUIT TREES.

THE subscribers would respectfully call the attention of the public to their assortment of FRUIT TREES. They are enabled this fall to offer a choice collection of many of the most esteemed varieties of Apples, Pears, Cherries, Peaches, Plums, &c. The assortment of trees having been considerably increased, persons desirous of obtaining articles in the nursery line, will find it worth while to examine the collection previous to purchasing elsewhere. All of which will be offered at very reasonable prices for CASH.

N. B. All articles intended for distant transportation will be carefully packed at the expense of the purchaser, and delivered free of cartage to any part of the city.

WILSON, THORBURN & TELLER.

☞ Orders sent to William Thorburn, Seedsman, Albany, will receive prompt attention.

Albany, Oct. 1, 1844—2t.

BUFFALO NURSERY AND HORTICULTURAL GARDEN.

THIS establishment is now somewhat extensive; from 25,000 to 45,000 trees are engrafted or inoculated each year, and these too, mostly from bearing trees, embracing nearly all of the most choice and leading varieties of the Apple, Pear, Peach, Plum, Cherry, Quince, Nectarine, Apricot, Grape, Gooseberry, Raspberry, Strawberry, &c. Also, a large stock of ornamental trees, flowering shrubs, and green-house plants.

The new descriptive Catalogue, recently published, will be forwarded to every post-paid applicant. This Catalogue gives in detail, the name, color, form, size, &c. of the various kinds of fruits cultivated at the establishment, together with ample descriptions of ornamental trees, shrubs, plants, roses, &c.

Trees thrifty and fine; prices moderate. Orders promptly attended to. Trees packed in superior order. **B. HODGE.**

Buffalo, Sept. 20, 1844—2t.*

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to **J. OAKLEY,**

Oct. 1.—tf. No. 75 Nassau street, New-York.

THE CULTIVATOR.

NEW “TO IMPROVE THE SOIL AND THE MIND.” SERIES

Vol. I. ALBANY, DECEMBER, 1844. No. 12.

THE CULTIVATOR
Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

Seven copies for $5,00—Fifteen copies for $10,00—all payments to be made in advance, and free of postage.

☞ Complete sets of the *First Series* of “The Cultivator,” consisting of ten vols., quarto, are for sale at the office, and may be ordered through the Agents of the paper throughout the country. Price, stitched,—vols. 1, 2, 3 and 4, 50 cents each—vols. 5, 6, 7, 8, 9 and 10, $1,00 each—for the whole set, $8,00.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN'S BOOKSTORE, No. 199 BROADWAY,
where single numbers, or complete sets of the back volumes, can always be obtained.

THE CULTIVATOR.

TO OUR SUBSCRIBERS.

With this number terminates the first volume of the new series of “The Cultivator,” and with it, in accordance with the custom pursued from its commencement, all subscriptions cease, except those paid for another year. The low price of our paper renders it necessary for us to adhere to the “cash system,” as it would be impossible to collect the trifling amount of the annual subscription from subscribers scattered over the whole extent of our country. We hope, however, that most of those who have read “The Cultivator,” the present year, have been sufficiently interested in its monthly visits to induce them to renew their subscriptions for the vol. for 1845, by immediately remitting their dollar through the hands of their postmaster.

The Cultivator was the first to introduce, to any extent, the system of illustrating Agricultural subjects by engravings; and in this branch of our paper we can promise our friends some very decided improvements in the course of our next volume. We have already in the hands of the Engravers, four splendid drawings, representing some of the beautiful residences on the banks of the Hudson, and portraits of the prize animals at the late State Fair at Poughkeepsie—two of these are being engraved on steel, in the best style of the art—the others on wood, in a style far superior to any we have heretofore given. These plates, with the other numerous cuts interspersed through each number, will give a beauty and character to the next volume far exceeding any that have preceded it. Our printer also promises us some improvement in the quality of the paper on which the Cultivator is printed, as well as in the manner in which the printing is executed.

The Proprietor has also made such arrangements for assistance in the editorial department, as will, he trusts, enable him fully to sustain the high character his paper has heretofore enjoyed. To improve its character in this respect, he has little hopes; but his readers may rest assured that the whole energies of his mind will be devoted to his favorite pursuit, and that no effort on his part will be wanting to render the succeeding volume of the Cultivator a worthy and welcome visitor at the domestic hearth of every farmer and every lover of rural pursuits.

To our numerous friends, in every section of our extended country, who have favored us with their valuable contributions to our pages, and thus given to them a value and interest they would not otherwise have attained—to those who have so liberally exerted themselves from year to year to extend the circulation of the Cultivator among their neighbors and friends, without other reward than the hope of benefiting those into whose hands they placed it—and to Postmasters and Editors, to whose courtesy we are so much indebted, we tender our grateful thanks, and beg to assure them that we shall deem ourselves most fortunate if we can continue to make our paper worthy of the kind reception it has hitherto received at their hands.

The Central New-York Farmer, which has for the last three years been published at Rome, will, on the first of January, be united with “The Cultivator,” and one of its Editors, Mr. Comstock, will become a regular contributor to this paper. This, with occasional communications from his associates, Messrs. Johnson and Bement, will, it is believed, commend the Cultivator to the attention and favor of the friends of the Farmer.

Messrs. Comstock and Johnson, the proprietors of the Central N. Y. Farmer, will publish the Cultivator at Rome, where subscriptions will be received and business transacted the same as at the proprietor's office in Albany. This arrangement will, we doubt not, meet the approbation of the friends of both papers.

Agents.—We publish on our last page, a list of Agents in the principal cities, that our subscribers in those places may know where they can renew their subscriptions. To give a list of all our Agents would occupy more room than we can spare; we would therefore state that all Postmasters are authorized to act as Agents, and so also are all subscribers, many of whom will, we hope, second our efforts in behalf of agriculture, by making such exertions as they can conveniently, during the present month, to increase the circulation of our paper for the next year.

The Farmer's Museum.—The paper issued from this office during the present year, under this title, will be discontinued this month.

MONTHLY NOTICES.

Communications have been received, since our last, from S. Y., A., J. P. Norton, L. H. Hare, C. T. Jackson, J. Eights, A. Leeds, (dated in *May,*) A Subscriber, J. Boyd, H. S. Randall, C. C. Hamilton, Wm. N. Green, J. J. Thomas, J. A. Badger, A. Coffin, A. D., A Farmer's Wife, D. B. L., Tyro, P. Eastwood, T. H. Darrow, O. Hussey, Noyes Darling, W. C. Redfield, D. G. Mitchell, W. R. Gilkey, Joseph Walker, E. R.

Books, &c. have been received as follows:—"Landscape Gardening and Rural Architecture," by A. J. Downing, 2d edition, and Johnston's "Agricultural Chemistry," complete in two vols., from the publishers, Wiley & Putnam, New-York—"The American Poulterer's Companion," by C. N. Bement, from the author—"The Journal of Agriculture, for October," from the Highland and Ag. Society of Scotland—Papers containing Proceedings of Ag. Societies and Ag. Addresses, from A. L. Kennedy, Esq. Philadelphia, C. C. Hamilton, Esq. Cornwallis, Nova Scotia, Messrs. Carver & Washburn, Bridgwater, Mass.; L. L. Lowell, Esq. Calias, Maine; Sidney Chapin, Esq. Springfield.—Report of the Committee on Horticulture, at the Fair of the American Institute, from T. Bridgeman, Chairman, New-York.—Transactions of the New-Castle (Del.) Ag. Society, together with the Address delivered at its late Fair, by J. S. Skinner, Esq., from Dr. Thomson, President of the Society—"Notes on Indian Agriculture, as practiced in the Bombay Provinces of India, by Alex. Gibson, Esq." from Hon. Edward Everett, our Minister at the Court of St. James.

We are also indebted to Messrs. H. & P. G. Allen, Duanesburgh, for a capital cheese, and to various other friends for three barrels and a box of Apples, and a lot of choice Poultry, for all which, those who have thus remembered us, will please accept the assurance that these tokens of respect are most kindly remembered.

Foreign Correspondence.—We esteem ourselves most fortunate in being favored with the Letters of Mr. Norton, all of which have been marked by a sound and discriminating judgment, and a direct and practical character, reflecting the highest credit upon our young countryman. We would invite particular attention to the one we publish this month, which will be found of unusual interest. It will be seen that we this month commence a series of letters from another of our countrymen in England. Mr. Mitchell contemplates spending most of the next year in Great Britain, and has promised us a series of letters, from which we anticipate much interest.

☞ M. B. Bateham, Esq. at present editor of the New Genesee Farmer, at Rochester, is, we regret to learn, about to leave our State. He has done much to advance the cause of agricultural and horticultural improvement in Western New-York, where he has long resided, by the introduction of new seeds, fruits, implements, &c. as well as by his labors as Editor of the Farmer. We understand he designs locating himself in Ohio, and we take this opportunity to commend him to the people of that State, as a gentleman of extensive knowledge in rural affairs, a scientific and practical horticulturist and florist, and in all respects entitled to their confidence.

Superior Apple.—Mr. T. H. Hyatt, of Rochester, has left with us a sample of a kind of apple which he thinks a seedling. It is medium sized, has a thin, smooth skin, of a golden color, with a rosy tinge on one side. It is a fair, beautiful, and exceedingly well flavored apple, ripening from first of November to Christmas. Whether it is a seedling or not, it is certainly a very valuable apple. If it should appear that it has never received a name, we would suggest that of *Hyatt's seedling.*

Sale of the late Mr. Grove's Saxon Sheep.—We are glad to learn that these sheep brought fair prices. The flock in Medina county, Ohio, sold at an average of about $9 per head, and the home flock averaged over $7 per head. For the production of wool for the finest cloths, these sheep are highly valuable, and if properly managed, will yield good profits to the owners.

Franklin College, near Nashville, Tennesssee.—We have before spoken of this institution, and it now affords us pleasure to state that the necessary buildings, and all the arrangements, are so far completed, that it will soon be opened to the public. The first session will be commenced on the first day of January next, under the charge of T. Fanning, President, assisted by able Professors in the different departments. A more extended notice of the institution will be given in our next.

Stock for the Genesee Valley.—Mr. T. H. Hyatt, of Rochester, lately purchased of Mr. Bement, of this city, from Durhams, viz.—one cow "Victoria," a yearling heifer, the bull calf which received the first premium, and the heifer calf which received the second premium on Durhams at the late Show at Poughkeepsie. Mr. H. also purchased of Messrs. Corning & Sotham, a pair of yearling Herefords—a bull and heifer. They are of prime blood, and will give the farmers of the rich district where they are to be kept, an opportunity of estimating their qualities in comparison with other noted breeds.

Notice to County Ag. Societies.—We are requested to call the attention of the proper officers of the County Ag. Societies of the State to the 4th section of the "Act for the encouragement of Agriculture," passed 1841, or that part which is in these words: "And the said Presidents of the several County Agricultural Societies, shall annually transmit in the month of December, to the Executive Committee of the New-York State Agricultural Society, all such reports or returns as they are required to demand and receive from applicants for premiums, together with an abstract of their proceedings during the year." Attention to this provision is deemed important, that the State may receive the full benefit of its expenditures, in the embodying of the information intended to be so collected, in the annual Report of the State Society to the Legislature.

South-Western Farmer.—This is a weekly paper published at Raymond, Mississippi, devoted to agriculture, general intelligence, &c., edited by Dr. M. W. Phillips and N. G. North, Esq. It has been in existence about three years, has been ably conducted, and is altogether a paper well worthy the patronage of the south-western public. The next volume is to be published in octavo form, at $3 per year. Success to it.

New-Castle County (Del.) Ag. Society.—We have received a pamphlet containing the transactions of this Society at the annual meeting held at Wilmington, on the 11th and 12th of September, 1844, together with the address delivered on the occasion by John S. Skinner, Esq. The reports of the various committees show that there was a good exhibition of fruits, flowers, domestic manufactures, and agricultural implements, neat cattle of all descriptions, horses, sheep, and swine. In addition to the departments of the exhibition mentioned, there was a plowing-match and trial of plows. The centre draft plow of Messrs. Prouty & Mears, received the preference at the match. A premium was awarded to Mr. Wm. Webb for a sample of 20 lbs. of corn-stalk sugar, which the committee appointed to examine it, say was—"well grained, and a handsome light brown color, affording evidence that this manufacture is *progressing and improving.*" Mr. Skinner's address, was a very spirited and excellent production, well calculated to encourage the agriculturist in his career of improvement, and to induce him to take the high stand which justly belongs to him, in his social and political relations.

Agricultural Survey of Hamilton County, Ohio.—We learn that the Agricultural Society of Hamilton co. O., have appointed A. Randall, editor of the "Plow-Boy," and Chas. Whittlesey, formerly a member of the geological corps of that state, to make an Agricultural Survey of the county. The work has been sometime in progress, and the commissioners expect to be able to publish their report soon after the first of January next. The survey is conducted with great minuteness. The commissioners proceed from farm to farm, collecting the details of every man's practice and management, and the matter so gathered, will constitute the basis of their report. In their Circular, the Commissioners say: "with the facts we expect to procure we shall be enabled to give not *theories* but *results,*—we shall thus give to every farmer the *experience* of every other farmer, engaged upon the same crops, in the same agricultural region."

This appears to us to be a very judicious mode of conducting such a survey, and we cannot doubt that it will prove highly useful.

CONDENSED CORRESPONDENCE.

Pumpkins.—Mr. L. Durand informs us that he raised the past season, eleven large cart loads of pumpkins, from about three acres of corn ground. The pumpkins were planted one seed in a place, about the first of June, in about every third hill of every third row of corn. The ground was well manured with long stable manure. The corn crop was good. Mr. Durand mentions that the little striped bug, (*Galeruca vittata*, of Dr. Harris,) which is often so destructive to vines, has not been seen in his neighborhood, the past season. We are also informed that in some parts of Massachusetts, the same remarkable disappearance of that insect has been observed. The curculio has almost totally vanished from the eastern section of that State. No cause for their sudden exit is known. The periodical appearance and disappearance of insects, is sometimes strange and unaccountable. Mr. Durand also says he has not seen any of the large black pumpkin or squash bugs, (*Coreus trispis*,) the past season. We do not know that this insect has been generally less common this season than usual. Mr. Durand says he "never could see that these bugs eat either the stalk or vine." They certainly do eat both. When squashes or pumpkins are but just out of the ground, and have only two leaves, (seed leaves, as they are called,) the black or brown bug screens itself on the under side of the leaves, and feeds on the stalk near the ground. At this tender stage of the plant, the punctures of the insect soon destroy it. As Mr. D. suggests, the use of ground plaster, scattered on the leaves, is a good thing to keep off the bugs.

Bone Mills.—We have received a letter from Mr. Peter Eastwood, who is desirous of obtaining a contract for the erection of a mill for grinding bones. He states that he has had much experience in England in building such mills—that he is by trade a mill-wright, and for the last thirty years, has ground bones both for his own use, and for sale—and is well acquainted with the application of bones to the different kinds of soil, the different quantities required, &c. Should any person be disposed to engage Mr. Eastwood for the erection of a bone-mill, a letter would reach him, addressed to the care of Anderson Keese, Keeseville, N. Y.

Bokhara Clover.—Mr. Jos. A. Badger, of Fabius, Onondaga county, N. Y., makes some inquiries about the Bokhara clover, to which we reply, that it is ascertained to be nothing more than common melilot, (sweet clover,) or a species so nearly resembling it that the difference is scarcely perceptible. We are not aware that it possesses any valuable properties as food for stock. It is sometimes used in a similar manner to sage in seasoning cheese, and it makes excellent pasture for *bees*.

Inquiry—Straw Cutter.—Mr. Alexander Leeds, of St. Joseph, Michigan, asks us "which is the best cornstalk cutter?" He says—"By the best, I mean the one which is most likely to keep in good order; to do the most work in a certain time by the same power; the easiest to work by hand, and the cheapest as to price."

Wm. Hovey, Worcester, Mass., manufactures a machine which is very popular. For cutting hay or straw, it is by many thought superior to any other. He received the first premium at the New-York State Show this year, and also that of the Mass. State Ag. Soc. We think the price of this machine is $25. We noticed a machine at the Poughkeepshie Show which we thought particularly well adapted to cutting corn-stalks, offered by Thos. P. Thorne, Fishkill. It received one of the premiums. The price of this machine is $25. Another quite simple and effective machine was offered by J. C. Conklin, Peekskill. Its price is $18.

Mr. Leeds also further inquires—"Will you also inform me if it is better to cut hay for cattle, or to feed it out uncut? Farmers here depend much upon the hay from the wild grass of neighboring marshes, there not being much Timothy or clover raised, and the cattle waste nearly if not quite one quarter of this wild hay."

On this subject, our correspondent will find a valuable article in the current volume of the Cultivator, at page 18. In relation to the wild grass he speaks of, his cattle would probably eat it better if cut, and especially if a small quantity of bran, shorts or meal was mixed with the chaff. There is unquestionably a saving of fodder, whether it be hay, straw or corn-stalks, by cutting, but the economy of the operation must depend on the comparative price of hay and labor.

Wives and Daughters.—Our correspondent "L—," of Michigan, strongly recommends the English practice of all hands, men, women and children, joining in the labors of the harvest field. We have not room for the article at length, which is prefaced by an extract from Thomson's seasons, beautifully descriptive of the harvest scene, and even, did space allow, we fear that L.'s remarks would find but little favor. We give a brief extract: "At the present time, in most of the countries of Europe, harvest work is done by male and female reapers in about equal numbers; and it is much to be wished that the fair daughters of Columbia, would imitate their European sisters as much in the harvest field as they do in the toilet. It would invigorate their constitutions, improve their appearance, and add much to the prosperity of the country; and instead of having the appearance of factory girls, they would resemble the picture of rural beauty, so graphically drawn by Walter Scott in his Lady of the Lake:

> What tho' the sun with ardent frown
> Had slightly ting'd her cheek with brown?
> What tho' upon her speech there hung
> The accent of a mountain tongue?
> A foot more light, a step more true,
> Ne'er from the heath flowers brush'd the dew."

Raising Clover.—Mr. Henry Bremen, of Enfield, Tompkins county, N. Y., thinks the raising of clover seed is very profitable. At four dollars a bushel, he thinks it affords a better profit than any kind of grain. His mode of raising seed from the *large kind* of clover, is to pasture it till the 12th or 15th of June, then sow on some plaster, and mow as soon as three-fourths of it is ripe. He says by mowing it thus early, more seed is got than if it stood till fully ripe; because in the latter state, a quarter of the seed is lost in gathering. For the *small kind* of clover, mow from the 20th to the 24th of June; plaster immediately after the hay is off. The second growth will give good seed. It is common for many farmers to gather their clover seed early, and sow the sod with wheat the same fall, and in most cases, it is the best fallow we have for wheat, leaving the ground in fine condition for wheat, and affording much vegetable matter to plow under.

N. Y. STATE AG. SOCIETY.

The annual meeting of this Society, will be held at the Society's Rooms in this city, on Wednesday, the 15th of January next, at 10 o'clock. Applicants for premiums on farm crops, Experiments, Essays, &c., are reminded that their statements must be forwarded to the Recording Secretary, Albany, on or before the first of January.

AGRICULTURAL SOCIETIES IN NOVA SCOTIA.

We are glad to learn that agriculture is evidently improving in this province. In the *Halifax Morning Post*, we have accounts of several exhibitions which have been held during the past fall, evincing a spirit and enterprize highly creditable to the farmers of that country. The Cattle Show of the King's County Ag. Society, which took place on the 25th of September, was well attended—many fine animals were exhibited, and more than £100 were distributed in prizes. We trust our Nova Scotia brethren will persevere in the good cause which they seem to have commenced with so much zeal, and send us another account of their progress.

He who masters his passions conquers his greatest enemy. Mature deliberation is always better than hasty decision.

Foreign Correspondence.

MR. NORTON'S LETTERS—No. V.

Lab. of Ag. Chemistry Association,
Edinburgh, Sept. 24, 1844.

MESSRS. EDITORS—In the August number of the Cultivator I noticed a paragraph, attributing much value to horn piths as a manure. It especially interested me, as I have lately made an analysis of these piths, or flints, as they are called in this country. They are sold in this city for $4 a ton, and are shipped to Manchester and elsewhere, for the purpose of making size for calicoes. The specimen analyzed by myself was sent to the Laboratory by a gentleman who wished to know its agricultural value. The result was as follows:

Water,	10·31
Organic matter, fat, gelatine, &c.	35·84
Ash—consisting of Phosphate of Lime, 46·14, Carbonate of Lime, 7·71,	53 85
	100·00

We thus have in these horn flints a most powerful manure, both as to its organic and inorganic constituents, fully equal to bones. In *England* such manures are not suffered "to lie on the hill sides" and "manure the air." Bones, as containing nearly every substance required for the growth of crops, have now an undisputed place among the very first of fertilizers. They are brought here from all quarters of the world, and to our shame it is a fact that English agents are purchasing them in the United States. You may truly ask "what is the use of importing guano, or buying poudrette," when we are neglecting a manure, nearly equal in its immediate effects to either of them, and far more permanent.

The price of bones in this country is from £5 to £6 per ton. When buried whole, they remain for a long time almost unchanged in appearance, but nevertheless afford a constant though limited supply of nourishment to the crops. As they are generally applied in the crushed state, the effect is more striking and immediate. Even then, it is permanent and has been known to last for 30 years. It has been a disputed point, whether the fertilizing action of bones is due to the organic or inorganic part. Some celebrated authorities have not hesitated to ascribe it wholly to the phosphates of the latter, but we know that the gelatine or glue of the former is also a very powerful manure, and that even at the end of many years, a portion of it still is retained in the bone, practically refuting those who have founded their arguments upon its perishability. It is far safer to conclude that both portions have their appropriate action and that both are necessary.

The horn flints cannot well be crushed in a bone mill as from their softness they clog the mill. They may however be with much advantage dissolved in sulphuric acid. This mixture, of sulphuric acid with bones, has within a few years come into use in this country, and is one of the beautiful results of science applied to agriculture. Prof. Johnston has furnished me with some statements upon this subject, from which I will quote, as facts are worth far more than words to the farmer. Mr. Bell, the farm steward at Gordon Castle, conducted experiments in four different ways:

1. One Imperial acre manured with 8 bushels bones and 14 cubic yards farm yard dung at £3, produced 12 tons of turneps.
2. One do. manured with 2 cwt. 91 lbs. guano, and 14 cubic yards farm yard dung at £1 17*s*. 4*d*. produced 11 tons 4 cwt.
3. One do. manured with 16 bushels of bones, at £1 16*s*. produced 11 tons.
4. One do. manured with 83 lbs. sulphuric acid and 2 bushels bone dust, mixed with 700 gallons water, at 11*s*. 6*d*. produced 12 tons 4 cwt.

Mr. Manson of Spynie, gives a similar result. In his field of 21 acres of turneps, 13 were sown with farm yard dung, and 8 with bones and sulphuric acid. 20 cart loads of the dung were applied per acre at a cost of £2 10*s*. Of bones 4 bushels and sulphuric acid 96 lbs per acre; the mixture largely diluted with water; the result was:

Sulphuric acid and bones at £1 per acre, produced 12 tons 5 cwt. 80 lbs.

Farm yard manure at £2 10*s*. per acre, produced 10 tons 17 cwt. 104 lbs.

Mr. McWilliam of the Sheriffston farm in Morayshire has furnished a report of 19 experiments made on 30 acres of turneps, which all go to prove, as instances above, the very great value and *economy* of this application.

The best method of preparation is to dissolve the bones in acid so weakened by water that it will not char them. When they are completely dissolved it is ready for use. Those experiments seem to have been most successful when the solution of bones thus prepared was very largely diluted with water, so as to make it nearly tasteless. It is applied by means of carts contrived for the purpose. It would be less expensive, if instead of diluting with water the solution were taken up by peat or some other absorbent and sown by hand—the *immediate* effect, however would not be as great.

Sulphuric acid alone has been found to exercise the same beneficial action upon clover, that attends the use of gypsum, (sulphate of lime) and it is therefore with every prospect of benefit that this mixture, containing not only the sulphuric acid and the lime, but the other substances which plants most need, might in such a diluted state be applied as a top dressing to clover and all those crops upon which gypsum has been found to produce a good effect. Of course the first trials should be made cautiously, and in small quantities.

As in a former letter I wrote at some length of guanos, I may mention that I have recently examined a specimen of an artificial guano, known as Potter's Guano. It has been sold somewhat extensively, and he professes to adapt its composition to various soils. A former specimen analyzed here contained 30 per cent of sand, and this was sent to ascertain if similar fraud had been practiced. My result shows that he has been a little more cautious in this instance.

Water,	14·55
Organic matter,	17·32
Portion soluble in water, consisting chiefly of sulphate of soda, common salt and gypsum, with a small quantity of potash and ammoniacal salts,	40·43
Phosphate and carb. of lime,	11·61
Coarse sand with bits of gypsum,	16·06
	99·97

There is much here that is valuable, but the prudent farmer would think twice before he paid $15 or $20 a ton for a manure containing 30 per cent of sand and water. A microscopic examination showed it to contain woolen clippings, seeds, horn shavings, bits of sticks, leaves and weeds, sand, small stones, pieces of gypsum and several kinds of salts.

A specimen of an adulterated guano has also lately been examined here. It contained about 40 per cent of gypsum to 25 of water and sand. There was also a large quantity of some finely powdered material, probably coal ashes, mingled with it to give the proper color. This is the first instance of adulteration that has come under our notice. This laboratory has been a terror to evil doers throughout Scotland.

In my last letter I spoke of the examination in Glasgow of some boys from the Larne school. A letter received from Dr. Kirkpatrick states that the effect had been wonderful, spreading through all Ireland. Repeated applications have been made to the commissioners of schools to establish similar institutions. The number of applicants for admission to the Larne school has much increased, and they have been thronged with visiters. Mr. Colman has been there with Dr. Daubeny.

The schoolmasters of Scotland held their annual meeting here, a few days since. Prof. Johnston delivered two most admirable lectures of which I send a report. They were received with great interest, with even enthusiasm. Spirited resolutions were passed, and the whole body dispersed to the various parts of Scotland, determined to introduce agricultural instruction into all the primary schools.

Very truly yours,
JOHN P. NORTON.

LETTERS FROM MR. MITCHILL—No. I.

Liverpool, England, Nov. 4, 1844.

Luther Tucker, Esq.

Dear Sir—A month ago, and I was in Albany, and rode with your hospitable friend Bement, to look up his Three Hills and fine cattle, and then ran down your river, looking either side, and seeing much. Now, here I am, and a moment ago, in the street, a woman (will you believe it?) was gathering with her bare hands, into her apron, the fresh dung from the horses. What a change! Attend me a short walk into the country, and you shall see it more strikingly. First, the universal greenness, dazzles and tempts you, if subject to such impulses, to throw up your hands and exclaim, "beautiful!" There are no crooked fences—there are no tottling walls; but beside the pleasantly winding and McAdamized road, are fences of hewn stone, laid in mortar, and finished with coping. Back of them run the various hedges to every point of compass, varying the brightness of the meadow, with hundreds of brown brushy lines. Nor should I forget the trees, though bare, which belt around each large enclosure, and in the back ground interweave, seemingly, into a forest hedge, over which, however, peeps some tall gable end, or turret or chimney top. For these modest stone houses, with vine or ivy clambering over them by the roadside, do not contain the land owners. Even now, at our right, the hedges and shrubbery and trees are thickening, and a black smoke is soaring above them, and a diamond window and a porch, and beds of flowers and laurel trees and gravel walks, and an elegant gateway, and now a "fine old English gentleman's" house is in plain sight, which means that a rich merchant of Liverpool bought the place in view, employed a man of taste to arrange matters, and from it he rides in the morning, in a carriage somewhat like our old fashioned barouche, only a deal heavier, and to it again at night. We are tempted to stroll through the unlatched gate, along the gravel way, and to the field beyond, where we see some beautiful Southdowns feeding; but the "Notice—trespassers on these grounds, will be apprehended"—deters us, and we pass on.

Opposite, farther along, are the laborers harrowing, one leading the horses, geared *tandem;* the other swinging the harrow by cords, it being wholly of iron, and in three parts with hinges—perhaps 50 teeth. The seed is barley. The field is thrown into lands a rod wide, divided by water furrows, straight as an arrow. The soil, a rich clay loam, which the plow and harrow do not fail to pulverize. The plow is of long beam, very long handles, coulter resting on nose, and share curved under in front, almost joining the land-side—this I suppose, to lessen draught. Other plows I see of cast iron wholly. Objects of interest thicken as I pass on—yonder in the field is a group of cattle, and a score or more of Southdowns, which the boy tells me belong to the butchers—and further, that most of the fields passed, are rented by them. I cannot learn the rent, but jump the wall, and venture upon a look; the cattle are indifferently formed, parti-colored, and rough haired, but in good flesh, and good size. The sheep are the beauties; rampant as blood horses, and sleek as Berkshires; live weight, I should judge about 150 lbs. average. They were beauties. As we stroll back into the road, we see "£10 reward," for a red cow, offered by the Butcher's Provident Society. At the great sign-post, pointing to Warnstred, to Woolton, and to Walton, over the wall, are being dug a fine crop of potatoes of 4 acres, planted in drills, and turning perhaps 400 bushels to the acre. Twenty-eight hands, (I counted them,) are at work, all with a tool resembling our dung fork, with shorter and broader tines. The tops are nearly green, and thrown in heaps for manure. Monstrous heaps of compost arrest the attention in almost every field, of marl, ashes, street dung, &c. A stranger is very much struck with the black appearance of the trees—scarcely recognizing an individual specimen—but remembering the clouds of smoke are deluging the air from the great city behind, the wonder vanishes; I as yet recognize only the poplar, the elm, the maple, (English) the oak and Scotch fir. In choice collections I see the American laurel, (a beautiful shrub,) and the variegated laurel. Never can I cease admiring the tortuous course of the road; ever bringing up unlooked for objects of attention. In the distance, for instance, I see a field of dark blue green, and wonder what it may be; presently a new turn brings it to my side, and peeping through the matted hedge, I see as fine a lot of ruta bagas, and as fresh as were your Albany ones in September. These in rows, and of the size of pint bowls. Ahead, around a bit of a stone cottage, I count 15 stacks of hay, of (say) 10 tons each, all nicely thatched. The mode is in brief this: straw is laid upon outer edges; these bound by tar strings running round, fastened to forked sticks driven into the hay; after this, another layer bound over the jointure in same way. They are perfectly tight, easily thatched, and neat in appearance. Objects fail not, which are a feast to American eyes, the whole circuit home, which I reach at half past two; tired, but gratified. There are walks in reserve, and markets, and sights of farm implements and farm houses, and barns and horses and cattle, &c. &c., of which I may possibly give you future hints. Meantime, I remain yours truly.

D. G. Mitchell.

FOREIGN INTELLIGENCE.

By the arrival of the steamer Hibernia at Boston, we have our usual files of foreign papers to the 4th of November, from which we compile the following:

AMERICAN PROVISIONS IN ENGLAND.

From a letter "*on the present state of the American provision trade,*" published in the Mark Lane Express, from J. and C. Kirkpatrick, dated Liverpool, Oct. 1844, we condense the following.

The strong prejudice which at first existed against American provisions, and for which there was good reason, in the inferior quality of the earliest arrivals, has been gradually removed, as shippers have learned to conform their brands to the wants of the English market.

Beef.—Great difficulty has been experienced in securing a footing in the British markets for this article, owing to the prejudice which the inferior character of the first shipments naturally produced; but the imports have been latterly of better quality. The Americans may have the *exclusive* supply of this article, if they will avoid the faults in cutting and packing which have formerly attached even to their best brands. Complaint is made that some of the late parcels were very dark in color, supposed to have been caused by a bad quality of salt, or badly seasoned casks. The casks have generally been made too large, allowing the meat to roll about; they should be made of such size as to admit the required quantity with tight packing, leaving room for a good heaving of salt. The meat too has often been most irregularly messed, the pieces being of very unequal sizes, whereas they should be cut as nearly as possible 8 lbs., and should be cut square and compact.

Pork has had less difficulty in finding its way into the English market, and less care has consequently been taken by curers in properly packing it. The position of the trade is therefore about the same that it has been for two years past; but it is capable of great extension if due care is only taken to suit the market. *Prime mess pork* should consist of 50 pieces of 4 lbs. each, from hogs weighing 160 to to 200 lbs., every part being packed except the head and legs. It is important that the meat be firm and well fed, and free from the oily character which American pork generally possesses. It should remain 36 hours after being killed, in order that it may become quite cold and firm, before it is packed.

Cheese.—The import of this article to Liverpool during the past twelve months was somewhat over 1,400 tons; while the steady and progressive increase in the trade gives promise of a much extended import in coming years. The general quality of American cheese shows that the soil of the United States is well suited for its production, and which makes it the more to be regretted that the very obvious *defects of make,* which have so much operated against its more extensive introduction into England, should not be remedied. This might easily be accomplished by the circulation of proper instructions on the subject among the farmers in the cheese-making districts *in America*. Of these defects, the principal arise from a too hurried manufacture, and insufficient pressing, which, by leaving the whey in the cheese, not only injures the flavor, but renders it more liable to decay, while the same cause makes it open and porous, a fault particularly objectionable. The make of English cheese has never been equal to the demand of this country; and the home supplies have, consequently, been supplemented by large yearly imports of Dutch. There is now, however, every prospect of the required supplies being drawn largely, if not principally, from the United States instead of Holland; the diminishing import from the one, and the rapidly increasing import from the other, already indicating such a change. As regards the form of the cheese, it is desirable that they be made of less breadth and greater depth or thickness, which would both conform them nearly to the appearance of Cheshire, with which they have to compete, and would also fit them better for passing through the ordeal of a long sea voyage."

Wheat flour.—The result of the harvest is now pretty well ascertained, and it may be said with confidence, with regard to wheat, the great staple of England, there has never been a more abundant harvest reaped, while the excellence of the quality is fully equal to the abundance of the yield. Oats rank next, but are below an average. Barley and beans, in consequence of the drouth, were a very short crop. The *abundance* of the wheat crop will, however, compensate for the deficiency in the other, and low rates for that article at least, may be looked for. The reduction in price has already advanced the duty to its highest point, 20 shillings per qr., and at which it is likely to remain through the winter, so that the stock of United States flour held in England, and which in Liverpool alone amounts to 140,000 barrels, must remain in bond till next summer at least, with the exception of what may be required for export. The result, so far, of this season's importation from Canada, shows that the object contemplated by Peel's corn-bill of last year has been fully secured, *in drawing to the river St. Lawrence a considerable portion of the produce of the Western States of America.* A late return shows that the exports from Canada, up to August this season, were 307,000 barrels flour, 237,000 bushels wheat—the exports to the same period of last season having been 50,000 barrels flour, and 15,000 bushels wheat.

AGRICULTURAL COLLEGE.—An Agricultural College is about to be opened at Leopardstown, near Dublin. The farm consists of 200 Irish acres of land, of medium quality. The terms for pupils in the Agricultural School will be £15 per annum, for which they will receive a suitable education; they will be engaged one-half of each day at farm-work, under the superintendence of the best practical and scientific agriculturist that can be obtained, and during the other half in the school, over which a teacher of like ability will preside.

COMPARATIVE ADVANTAGES OF OXEN AND HORSES IN FARM WORK.—We find in the Journal of the Royal Agricultural Society, an interesting and well written article on this subject, by James Cowie, from which we gather the following items. Mr. Cowie's oxen are put to work somewhat older than horses, and he thinks they are not at the outset so able for steady work; they cannot be depended on before they are four years old. His oxen are principally of the Angus and Aberdeenshire breeds. The peculiarities in their figure are, a small head, deep chest, round body and short legs. The largest sizes, although frequently selected for work, are not considered the most proper. His oxen average about 800 lbs., the four quarters, when fattened. When much heavier, it is found they want activity and endurance, and their feet, from the additional weight, are more apt to give way. In regard to the work performed relatively by horses and oxen, Mr. C. says that except in frost, when land cannot be plowed, the amount and value of the work performed by each are equal. He works his oxen 10 hours a day, as steadily all the year over, except in frost, as horses, and they keep in perfectly good condition. In regard to the relative speed of oxen, Mr. C. says—"we often see oxen going very slow and sluggardly at work. When well trained, and of a proper breed and size, they will step out as well and as fast as horses—mine do so. At a late plowing match in the district, where upwards of 70 plows started, my ox-team was the second off the field."

In regard to improvements in husbandry, Mr. Cowie gives the following striking example. He says—"The farm which I occupy has been tenanted by my ancestors for many generations. At the Revolution, my great grandfather, and his son, for many years after that, employed 12 working horses, and 28 working oxen, one-half of each set being yoked to one plow. I now work the same land to better purpose, I presume, with six horses and two oxen."

INDIAN CORN IN ENGLAND.—In the New Farmer's Journal, a correspondent who signs himself "A Man of Kent," states that ever since 1829, he has succeeded in growing Indian corn, and having it come to maturity. The kind is Cobbett's yellow, or what is called here, Canada Yellow or Yellow Flint. The writer says—"I am sure that quantity for quantity, corn is, as food for horses, equal to beans, without possessing their heating property; for pigs and poultry, superior to the very best barley; for sheep, very superior to oats; and for bullocks, better, I think, than any thing, oil cake excepted." Green corn for the table, he recommends highly; but hopes the people of England will never be obliged to resort to the use of corn for bread. Corn, as a general crop, can never be grown in England; the low temperature of their summer forbids it.

Advantage of keeping manure covered.—An experiment conducted by the President of an Agricultural Society in England, shows that manure which was kept covered by nine inches in depth with earth, so that no evaporation escaped, produced four burhels more of grain per acre, than the same quantity and kind of manure, applied to the same extent and quantity of land, but which had lain from the 13th Jan. to the 4th of April, exposed to the weather.

GREAT CROP OF BARLEY.—An English paper says that John Stokes, Esq. of Cuffern, has produced this year, from half an acre of ground, 45 Winchester bushels of clean barley, fit for the market.

PARISIAN STATISTICS.—The consumption of butchers' meat in Paris during the month of September last, comprised 5,759 oxen, 1,577 cows, 5,861 calves, 34,707 sheep; being a diminution, compared with the month of September, 1843, of 222 oxen, 1,143 calves, and 3,356 sheep. The consumption of butchers' meat in Paris during the month of September, 1843, exhibited a similar proportionate reduction compared with the month of September, 1842, so that it would appear that the consumption of butcher's meat in Paris is gradually diminishing.

BEES.—A bee hive, which was opened by Swammer dam, was found to contain 1 queen bee, 33 males or drones, 5,635 working bees, 45 eggs, and 150 worms. Total population, 5,864; for whose accommodation there were 3,392 wax cells for the use of the working bees, 62 cells containing bees' bread, and 236 cells in which honey had been deposited; in all, 3,620 cells. From this observation it may be presumed the hives contain 5,000 to 6,000 inhabitants, amongst which there is only one female, viz., the queen bee, and from 3,000 to 4,000 cells.

HORTICULTURAL CURIOSITY.—A curious device was exhibited at the Bristol Horticultural Society last week. It was a donkey carrying an old woman to market, the animal covered with a kind of grass, the exact color of a donkey's coat, and the rider composed entirely of vegetables.

SOWING WHEAT.—August, 1843, one quarter of an acre of a very gravelly soil—in a hot summer produced but little—was, after peas, plowed 4 times in the same day with six horses, 15 inches deep; dibbled with wheat in October, produced at the rate of 5 bushels 3 pecks per per acre more than the land by the side of it, plowed in the usual way for wheat 5 inches deep. Straw 3 3-4 cwt. per acre more than the adjoining land of the same measure and same soil.

THE BEST RUSSIAN HORSES.—The Orloff breed—the most renowned in Russia, especially the Orloff trotters—are very large in size, and from the age of one year, are harnessed to light sledges, and never allowed to break trot; so that an Orloff trotter has, perhaps, never galloped or cantered since he was foaled; and thus, having lost all instinct of the pace, if a wolf were at his heels, would still *trot* away from it. When put to their utmost speed, these horses therefore trot at an astonishing pace.

Hints to Lovers of Flowers.—A most beautiful and easily attained show of evergreens in winter may be had by a very simple plan, which has been found to answer remarkably well on a small scale. If geranium branches are taken from healthy and luxuriant trees just before the winter sets in, cut as for slips, and immersed in soap and water, they will, after drooping for a few days, shed their leaves, put forth fresh ones, and continue in the finest vigor all the winter. By placing a number of bottles thus filled in flower baskets, with moss to conceal the bottles, a show of evergreens is easily ensured for a whole season. They require no fresh water.

NEW BOOKS.

Downing's Landscape Gardening.—We hail with pleasure the new edition of this elegant work, which has just been issued by Wiley & Putnam, New-York. Such had been the demand for this work, that not a copy of the first edition had been for sale for months past; and we anticipate a much more rapid sale for this new edition, a large part of the first portion of which has been re-written, much new matter added, the whole revised, and newly and more copiously illustrated from examples now existing in our own country. The illustrations are admirable, both in the drawing and engraving, and the work is, altogether, got up in a style to compare well with the best English books. This Treatise is justly regarded as an honor to the country, and it has already effected an immense good by inspiring a correct taste for rural improvement, the evidences of which are not unfrequent throughout the land.

"The Fruits and Fruit Trees of America."—This new work, by A. J. Downing, Esq., advertised to have appeared some time since, has been delayed, as we are informed by the Author, that he might have the benefits of the fruits of the present season to enable him to test additional varieties and to settle some doubtful points. It will be issued during the coming winter.

American Poulterer's Companion: a Practical Treatise on Breeding, Rearing, Fattening, and General Management of the various Species of Domestic Poultry, with Illustrations and Portraits of Fowls, taken from Life: by C. N. Bement. This work, the most complete of the kind yet published in this country, has just been issued by Saxton & Miles, 205 Broadway, New-York. It embraces 380 pages, 18 mo., is beautifully printed, and contains many engravings illustrating the characteristics of the different species and varieties, and exhibiting the most approved plans of buildings and other necessary appurtenances to the successful management of poultry. As a work of *practical* value, and containing much information on all branches of the subject to which it relates, we have no doubt it will be eagerly sought, and highly prized by the American public. When we have had an opportunity to examine it more minutely, we shall give it a more extended notice.

Johnston's Lectures on the Applications of Chemistry and Geology to Agriculture.—Among the various attempts which have been made to show the practical relation of the sciences of Chemistry and Geology to Agriculture, we have no knowledge of any which have been more successful than those of Professor Johnston. The "Lectures," here mentioned, are particularly valuable in this respect. They are written in an exceedingly interesting and perspicuous style, no scientific terms being used, or philosophic principles referred to, that are not fully explained. Professor J. informs us, in the preface, that the "first Part of the Lectures was addressed to a society of practical agriculturists, most of whom possessed no knowledge whatever of scientific Chemistry or Geology. They commence, therefore, with the discussion of those elementary principles which are necessary to a proper understanding of each branch of the subject." "For the sake of clearness," says Professor J., "I have, in the following pages, divided the subject into four parts—the study of each preceding part preparing the way for a complete understanding of those which follow. Thus part 1, is devoted to the *organic elements* and parts of plants, the nature and sources of these elements, and to an explanation of the mode in which they become converted into the substance of plants;—Part II, to the *inorganic elements* of plants, comprehending the study of the soils from which these elements are derived, and the general relations of geology to agriculture;—Part III, to the various methods, mechanical and chemical, by which the soil may be improved, and especially *to the nature of manures*, by which soils are made more productive, and the amount of vegetable produce increased;—and Part IV., to the *results of vegetation*, to the kind and order of the food produced under different circumstances, and its relations to the growth and feeding of cattle, and to the amount and quality of dairy produce."

These lectures have been republished in this country, by Messrs. Wiley & Putnam, New-York. They may be had, neatly bound in one volume, for $1,25—or bound in two volumes, for $1,50.

SMUT IN GRAIN.

It has been often stated that this is a kind of fungus, the seeds or sporules of which are so exceedingly minute that they are taken up and ascend through the pores or sap-vessels of the plant. Professor Johnston lately spoke upon this subject in a lecture before the Agricultural Chemistry Association. He observed that the smut had received the name of *Uredo segetum*. That these puff-balls or sporules were so minute that it would take 2800 of them to cover an inch. There was no doubt that they ascended through the plant—by examination, it could be seen where they had come up—the tubes of the stalk were filled with black matter that had come through the vessels, affecting first the straw, and then getting into the ear, where it spread itself all over. After passing through the stalk the smut fixed itself under the root of the flower, which it rendered barren, and as the grain approached perfection, the puff-balls became ripe and burst, showing black dust of very minute particles—so minute that it took about 1,100,000 of them to lie across a single inch. He then went on to speak of the manner in which smut was propagated. It was in the first place sown along with the seed. Very often it was so minute that thousands of the particles might attach to a single grain, and yet not be visible to the naked eye. Oats are more subject to smut than other grain. Rye is never attacked by it, and wheat seldom. Grasses are sometimes attacked by it and much injured.

Certain substances have been employed for the prevention of smut. The substances used are sulphate of copper, or blue vitriol, urine, common salt, wood ashes, lime-water and sometimes arsenic. The application of these substances to the seed grain, destroys the black dust or the spores of the fungus, and in addition to this they make the grain grow better. Professor Johnston mentions an instance where a large field of oats was divided into several parts, and the seed doctored in different ways—some not being doctored at all—other portions being dressed with guano—and others steeped in the following composition:

Phosphate of Soda, Sulphate of Magnesia, Nitrate of Potash, Common Salt, Sal-Ammoniac, or Sulphate of Ammonia. One pound of each in ten gallons of water, to steep 300 pounds of seeds, the moist seed to be dried with gypsum or quick lime.

On looking at that field it was found that the grain to which nothing had been done, was smutted, that which was dressed with guano was also smutted, as was likewise a portion where Campbell's steep had been used; but there were only two or three stalks affected with smut in the grain steeped in the composition above mentioned.

The smut which is sometimes found in wheat, called *dust brand*, or *pepper brand*, is supposed by some to be a different species of *uredo* from that above spoken of. It is sometimes called *uredo fœtida*. But the same remedies against its attacks are used with equal effect.

MR. FRENCH'S FARM, BRAINTREE, MASS.

During our recent visit to Massachusetts, we took notes in reference to several farms, which we had the pleasure of visiting. We have put these notes in form, and shall give them to our readers in the present and future numbers of the Cultivator.

The farm of B. V. French, Esq., is situated in the town of Braintree, ten miles from Boston. Within the last few years, Mr. French has made great improvements. The farm is naturally wet, and very stoney. It has been divided into small inclosures, and the stones disposed of by putting them into substantial walls. Trenches are dug and filled with small stones for the foundation of the wall. This not only gives a firm basis for the walls, but by a little attention in the arrangement, they serve as drains also. Mr. French has proved, pretty thoroughly, the efficacy of under-draining and subsoil plowing. The benefits of these operations, are obvious and striking. Cold, springy land, with a close subsoil, which was before so wet in the early part of the season that it was impossible to work on it, and which at best only produced a crop of rather inferior hay, is now made to yield good crops of garden vegetables and grain. We were shown a piece of this formerly cold, wet land, where an enormous quantity of stones had been dug out, and the ground afterwards plowed and subsoiled to the depth of fifteen to eighteen inches, that produced last year a crop of carrots of nearly *eight hundred* bushels to the acre. Another piece of four acres, naturally very stony, but not so cold as the former, having a south-eastern aspect, had been thoroughly gone over, and the lot fenced by the stones taken out. It was then subsoiled, and is now apappropriated to a nursery. The various kinds of fruit trees thrive remarkably well. The spaces between the trees are cultivated with carrots, and the yield will be a heavy one—not much less than one thousand bushels to the acre. Noticing the great depth to which the carrots penetrated, we tried the soil with a stick and found it very easy to push it down eighteen inches. This land was naturally a hard stoney gravel.

Mr. French uses a good deal of peat muck, as well as mud from the salt marshes, in making manure. It is laid over the cattle yards, thrown into the hog-pens, and made into compost. He obtains the *salt lye* from a soap manufactory. Heaps of peat muck are saturated with this liquid, and found to be a powerful manure.

The principal objects of production with Mr. French, are milk and fruit. He sends a man to Boston with milk every day, and the same man usually finds a market for all the fruit, vegetables, &c.

The cows obtain but a small portion of their support from pastures, but are mostly fed on crops raised for that purpose. They are put in the barn every night, where they are fed with a small quantity of wheat bran or shorts. Carrots, potatoes, or beets, are likewise fed at the rate of half a bushel to each cow per day, during the season of the year when these vegetables are in a proper state for use. Mr. French gives the preference to the carrot, as producing richer milk and giving the cows a better appearance. He raises both the white carrot and the yellow kinds. The white is easiest grown, and yields best, but perhaps is not quite so nutritive. In good weather, the cows are turned during the day into small enclosures, where they have shade and plenty of pure water. They are at all times well fed, and when they get so fat that they are worth more for beef than for milk, they are sold to the butcher.

Mr. French's collection of fruits is extensive. He has upwards of *two hundred* varieties of apples, and about the same number of pears. Among the latter, are most of the choice kinds which have been originated within a few years by Knight, Van Mons, and others in Europe.

Keeping hens in yards—Mr. French showed us a yard where he kept his hens. The yard may contain an eighth of an acre, and has several plum and other fruit trees in it. There is not much grass in the yard. Hens have been kept there for a few years, but they have not done very well. Besides grain, they want grass or something of that kind, and some sort of animal food. The great desire they have to get something as a substitute for grass, was strikingly shown by their having picked off and swallowed every leaf and bud of the trees, so that they were left totally destitute of foliage and nearly dead.

In addition to his farming, Mr. French carries on considerable other business. He has a mill, lately erected near his residence, from which he sells about two hundred bushels of meal, (mostly corn-meal,) per day. It is one of the most neat, convenient and perfect establishments of the kind we have ever seen.

Order and neatness are prominent characteristics in all Mr. French's arrangements and management. Seldom has it been our good fortune to find the motto, "a place for every thing, and every thing in its place," so promptly *lived up to* as here. Every implement wanted on the farm, or in the garden or orchard, is provided. They are all of the most approved kind, and when not in use, are always in the right place.

Mr. French was so kind as to accompany us on a visit to the noted granite quarries, which are in Quincy, on a part of a range of highlands called the Blue hills. A vast quantity of stone has been taken from here within the last twenty years. The first operations, we believe, were commenced by the Bunker Hill Monument Association—the stone of which that noble work is constructed, having been obtained here. A rail-road made for the purpose of conveying the stone from the quarry to tide-water, a distance of three miles, was the first undertaking of this kind commenced in the United States. Soon after its completion, we took our first rail-road ride on it, which we shall never forget. This was in 1823. The granite of which many of our large public buildings were made, the Exchange at New-York, the Custom-house at Boston, &c. was obtained at these quarries. For the custom-house, there were 26 pillars, each 32 feet in length, and four and a half feet in diameter. We were informed by Mr. Willard, the architect and superintendent of the work, that these immense blocks of stone were got out and finished here, carried on a massive frame constructed for the purpose, nearly three miles, to the water, and thence to Boston, without the slightest accident, and without defacing the pillars to the value of a cent. The quarry where these stones were obtained, was not accessible by rail-road, and the transit from the quarry to water navigation, had to be effected by teams—each pillar requiring, when placed on the frame, about fifty oxen to draw it.

The town of Quincy is likewise noted as having been the birth-place and residence of two of the Presidents of the United States—John Adams, and his son John Quincy Adams. Mr. French pointed out to us the dwellings where both of these distinguished men were born. They are simple old fashioned New-England wood houses, and are in so good a state of preservation, that they may stand long enough for several more Presidents to be born in them. The present residence of the Hon. John Quincy Adams, is not far from those just mentioned. This is also an unassuming wood building, of a style which was quite common in this part of the country seventy-five years since.

SALT FOR FRUIT TREES.—A writer in the Boston Cultivator says a pear tree was killed by a quantity of salt having been left in an old flour barrel near the body of the tree. A heavy rain dissolved the salt and forced it into the ground among the roots. The tree soon exhibited signs of blast or decay, and on cutting off and examining the branches, he "found the leaves not only highly impregnated, but encrusted with a visible saline matter." During the summer, the tree died. Too much salt was undoubtedly the cause of the trouble. A small quantity has been recommended to be put round trees for the destruction of insects. The editor of the Boston Cultivator says two quarts is enough for a tree of "middling size."

THE ARK, AND ODD FELLOWS' WESTERN MONTHLY MAGAZINE, devoted to the cause of Odd Fellowship. From what we have seen, we think it a well managed work. It is a neatly printed octavo, published monthly at Columbus, Ohio, by John T. Blain and Alex. E. Glenn. One dollar a year in advance.

MR. COLMAN'S EUROPEAN AGRICULTURE.

The second part of this work has made its appearance. The great difficulty of procuring the information sought, in an exact and authentic form, amidst the embarrassments and inconveniences which surround a stranger, are mentioned as reasons why this portion of the work has been so long delayed. Mr. Colman says he cannot promise his third and fourth numbers at any particular time, but assures us that no unreasonable delay shall be permitted. He has yet to visit Ireland, some of the counties of Scotland, the dairy portions of England, and the flax and hop districts. In the spring he intends to visit the continent, and hopes to be able to return to this country in the autumn.

The first division of the number before us, is devoted to a continuation of remarks on the *Allotment system.* Under this head, many useful facts are given, showing the large amount of sustenance which the soil, under proper management, is capable of yielding—though, as Mr. C. says, it is probable that the "utmost productive capacity of an acre of land, in any crop has not yet been fully determined."

An instance is mentioned where a man had supported himself, wife and son, from two acres of land, for which he paid a rent of $45,60; and in the course of 7 years saved enough from the produce of his two acres to purchase two acres at $144 to $192 per acre. In another case, 6 acres under spade cultivation, is stated to have given an average of 52 bushels of wheat per acre. Another witness brought before the Parliamentary committee, testified that on the estate of Lord Howard, Barbot Hall, Yorkshire, twenty-eight bushels of wheat had been obtained from a quarter of an acre; being at the rate of 112 bushels per acre. Mr. Colman thinks, however, that the accuracy of this statement may be considered doubtful.

At Horsham in Sussex, some seed wheat, brought from Australia, was sown in rows 9 inches apart, and hills 6 inches apart, only one seed in a place. At this rate it took $9\frac{1}{4}$ lbs. seed per acre—at 63 lbs. per bushel, one bushel of seed would plant more than 6 acres. The yield of this wheat was at the rate of 71 bushels per acre. Some of the straw was 6 feet high.

A laborer, John Harris, in Sussex, produced the following crops from his allotment. "One acre and 12 rods, wheat, 53 bushels—half an acre of oats, 61 bushels—30 rods of barley, $13\frac{1}{2}$ bushels—20 rods of peas, $4\frac{1}{2}$ bushels—one acre potatoes, 404 bushels—half an acre of turneps, 150 bushels—15 rods carrots, $3\frac{1}{2}$ tons—15 rods mangel-wurtzel, 3 tons. The rest of his land was occupied as green food for his cows, such as cabbages, rye, clover, tares, &c. He kept two cows. He had from 8 to 12 pigs all winter, and they consumed all his potatoes, and his turneps, mangel-wurtzel, and carrots, were given to his cows. He fattened 20 stone, or 960 lbs. pork, which he sold to the butcher. He sold 6 shoats at 3 months old, for stores, and one pig for roasting; he also sold 2 sows in pig for $12,25."

An instance is mentioned where a man in Sussex, John Piper, who occupied four acres, and kept two cows, worked one of the cows in a cart, by which he makes an annual saving of $24. Notwithstanding the cow is worked, "she makes *eight pounds* of butter a week, besides furnishing some milk for the family."

Great pains are taken in all cases to save the manure. Nothing is wasted. The animals are stall-fed, and only turned into a yard a few hours a day for exercise. Brick or stone tanks, well cemented, are sunk near the cow-stables and pig-sties, for the reception of all the liquid manure. "The contents of these tanks, on becoming full, are pumped into a small cart with a sprinkling box attached to it, like that used for watering streets in cities, and distributed over the crops, always with the greatest advantage, and with effects immediately perceptible." All which Mr. Colman saw, convinced him that there is no necessity of impoverishing the soil, but that under the right management, it will keep itself in condition, and be ever improving. The allotment system, though so evidently beneficial to the poorer classes, is strongly opposed by the farmers in general. In relation to the causes of this opposition, it is alleged that the farmers are not willing to lessen the dependance of the laborers on them for support—that the great crops obtained under such nice cultivation, contrasted with those of the farmer, tend to throw the latter into the shade, or by proving what the land is capable of producing, may induce the landlords to raise their rents. Besides, it is said the farmers are unwilling to see the laborers appear in the markets in competition with themselves. Mr. Colman observes, that whether these reasons actually exist or not, the "motives named are but too consistent with the weakness and too often unrestrained selfishness of human nature. Every man certainly has a fair right 'to live,' and the duty of every just man, is to 'let him live.' Blessed be the day, if come it ever should, when every man will learn that his own true prosperity is essentially concerned in the prosperity of his neighbor, and that no gratification on earth, to a good mind, is more delicious than that which is reflected from the happiness of another, to which he has been himself instrumental."

Some of the allotments are managed by men who act in the capacity of school-teachers, and the scholars, who are boys from eight to fourteen years of age, perform the labor of cultivating the crops—working on the farm a given number of hours each day in return for their instruction. The system works well, both for the boys, and the condition and product of the grounds. Yet Mr. Colman feels constrained to add his "strong conviction that the education of the laboring classes is not viewed with favor by those who move in a higher condition of life." "Every approach, therefore," he continues, "in this direction, is likely to be resisted; and this feeling of superiority pervades, with an almost equal intensity, every class in society, above the lowest, from the master of the household to the most menial beneath whom there is any lower depth. Education is the great leveler of all artificial distinctions, and may therefore be well looked upon with jealousy."

Quantity of Seed per Acre.—Under this head we find also many useful facts and experiments The English farmers generally practice very thick sowing, and it is the opinion of some very judicious cultivators, that a large portion of the seed may be saved, and quite as large, if not larger crops be obtained, as there are now. Some experiments strongly support this opinion. The practice in England is to sow from $2\frac{1}{2}$ to 3 bushels of wheat per acre. One man has reduced his quantity to only *three pecks* per acre. He nowever, drills and hand-hoes every thing, clover seed excepted. He sows one and a half bushel rye, two bushels of oats, seven pecks barley, and two bushels peas, per acre. In cultivating cabbages, he allows one to three square feet. He has produced 40 bushels wheat, 104 bushels of oats, and 40 bushels barley, to the acre. There is no doubt that by substituting the drill, for the broadcast mode of sowing, a large portion of seed might be saved.

Steeping Seeds.—Considerable has been said, during the past year, of a mode of steeping seeds, introduced by Mr. Campbell, of Scotland. Mr. Colman introduces one or two letters from Mr. Campbell, in reference to this subject. The steeps he employs, are sulphate, nitrate, and muriate of ammonia, nitrates of soda and potass, and combinations of these. One experiment given, is in subtance, the following. Some earth was dug up 6 feet below the surface, which was totally destitute of organic matter. It was sown with seeds which had been soaked in these solutions, and produced plants with 7 or 8 stems each, while plants from the unprepared seeds produced no more than three stems each. They had not reached maturity when this statement was given, and of course, the relative yield of grain could not be told.

Spade Husbandry.—This mode of cultivation seems to be extending itself in Great Britain, and under the cheapness of hand labor which there prevails, is found fully remunerating. The principle is the same as that of subsoil plowing. The best tool for the work, is a three pronged fork, 14 inches deep, and $7\frac{1}{2}$ inches wide This works easier than a spade, and pulverizes the ground better. Though, as Mr. Colman observes, spade husbandry cannot be generally introduced into the United States with advantage, yet he says there are some cases in which it might be found profitable, such as on farms where the poor are kept. In England, no farm is ever connected with a pauper establishment, and some caution is there used, lest those establishments be found too comfortable and attractive. Mr. Colman cites the example of a man in New-England, who from only seven acres of land, sells annually $2,500 worth of produce.

Condition of Laborers.—Mr. Colman says "it is with England a question of tremendous importance, what is to become of the vast accumulations of people, which are continually increasing here at the rate of from seven hundred to a thousand per day. * * * The subject, it appears to me, and perhaps wholly from my being unaccustomed to a condition of things in any degree resembling it, is daily assuming a fearful aspect; I do not mean of danger to the government, for the government seems never to have been stronger, but fearful in its bearings upon the public peace, the public morals, the security of property, and the state of crime." Mr. C. does not pretend to offer a remedy for this state of things, but seems to think the allotment system the best which has yet been devised, as it is, at all events, capable of improving, to some extent, the laborer's condition.

Progress of Agriculture.—Under this head, Mr. Colman gives an interesting description of the great improvements which have been made and are still going forward in England, by means of draining, irrigation, &c. Of the *live stock*, he speaks in the highest terms, but does not go minutely into this subject, intending to take it up by itself hereafter. He speaks not of the cattle as seen at the cattle shows, but as they are seen every Monday in the Smithfield market, and at the other smaller markets and fairs in various parts of the kingdom. He says—"here are cattle and sheep of several distinct breeds, and all of remarkable excellence of their kind; I do not say perfect, for that, in almost all cases, would be assuming too much, but leaving very little to be desired beyond what has been attained. Their condition and form, their symmetry, their fatness, are admirable; and each breed is seen retaining its distinct properties; and what is most remarkable, showing how much can be done by human art and skill, in improving the animal form and condition, and bringing it to a desired model."

Application of Steam to Agriculture.—The application of steam to the plow, so far as Mr. Colman has heard, has not been attended with much success. Steam engines are extensively used in some sections, for threshing grain. In the Lothians of Scotland, it is said that the use of steam power for this and other purposes, saves one quarter of the horse power required on the farm. A very important item, as the keeping of horse teams is the greatest single source of expense to the British farmer. A six horse steam power, usually threshes from 30 to 40 bushels of grain per hour. Mr. C. suggests that in the prairie districts of our western country, wherever coal can be had, steam power might be advantageously used for many farm purposes.

A very important use of steam power in Britain, is the conveying of live stock to market by means of steamboats and rail-roads. Cattle are brought in immense numbers to Smithfield market by these conveyances, without loss of condition—sometimes the distance of seven hundred miles. Mr. C. thinks no parties have suffered injury from rail-roads. Contrary as it may be to all theories, the farmer near market is not injured, though the distant one is largely benefitted.

The Increase of Agricultural Products in Britain, is shown in a very striking light. The average importation of wheat into England from 1801 to 1810, when the population was set down at 17,442,911, would have given a fraction over one peck to each person. From 1811 to 1820, when the population was 19,870,589, the quantity imported would have given less than a gallon and a half to each person. From 1831 to 1835, the population was 25,000,000, and the quantity imported would have given to each person one gallon. Taking the three years 1833-4-5, the importation would have allowed only one pint and one fifth to each consumer. This will give some idea of the immense production and resources of that little island. Under a fast increasing population, as before mentioned, the dependance on foreign supply, has been constantly growing less.

Among the means of improvement, Mr. Colman remarks that the Royal Agricultural Society is an efficient organ. It was instituted in 1837. It has begun the establishment of an agricultural library and museum, the object of which is to exhibit specimens of agricultural productions which are capable of preservation, seeds, plants, grasses, samples of wool, mineral manures, models and drawings of implements, &c. &c. Mr. Colman remarks that he has often urged the establishment of agricultural museums in the United States, especially in the capitals of the States, where the different legislatures assemble. The suggestion is a valuable one. Cannot our New-York State Ag. Society profit by it?

The management of the Royal Ag. Society at its exhibitions, is spoken of as admirable in many respects. Mr. C. says—"every possible effort is made to secure an impartial decision among the competitors; for besides that they are not suffered by their presence to influence the examiners, the examiners themselves are selected from among persons as far as possible disinterested, and not likely to be influenced. They are chosen, likewise, with a special reference to their characters and qualifications, to the nature of the subjects submitted, and every pains is taken in this way, to secure the greatest aptness and talents. The name of the competitor is not given if it can be avoided, but only the number of the article presented. The rules of admission and competition, are stringent and absolute, and no exceptions are on any account allowed."

The Highland Agricultural Society of Scotland, and the Royal Ag. Society of Ireland, are both spoken of as excellent institutions, similar in their objects and management to the Royal Ag. Society of England.

Model Farms.—Mr. Colman notices some of these. He has visited that at Glasnevin, near Dublin, and furnishes some highly interesting particulars in regard to it. In connexion with this establishment there is also an agricultural school, where young men receive such an education, theoretical and practical, as fits them to pursue the occupation of farming to the best advantage. The young men work in the field about 6 hours a day. Mr. C. had the gratification of listening to an examination of fourteen of these young men, brought out of the field from their labor, and declares that "it was eminently successful, and in the highest degree creditable both to master and pupil." The products of this model farm, as given by the superintendant and teacher, are quite remarkable. Seven hundred and twenty bushels of potatoes per acre, are given as an average crop. The superintendent states that the largest crop he ever obtained, was in a field where the sets were three feet apart each way. Medium sized potatoes, planted whole, are preferred to cut ones. The experiment had been made, and the difference between whole potatoes and cuttings was marked and obvious in favor of the former. The cattle on the farm are *soiled.* Italian rye grass is mentioned as one of the best articles for feeding. It is cut four times in a season, yielding at each cutting a good crop. Lucerne is sometimes cut five times. The Scotch potatoe oat, and the Hopetown oat, are the varieties of this grain here raised. They yield an average of 80 bushels per acre, and weigh about 44 lbs. per bushel.

The typographical execution of the second Part of Mr. Colman's work, is very perfect, and though the matter is somewhat miscellaneous, it is of a nature calculated to interest not only the agricultural, but general reader. The style is exceedingly chaste and agreeable, and a most beautiful moral tone pervades the whole. His remarks on the condition of the laboring classes in England, show how vastly superior are the advantages of that class in this country.

American Masonic Register.—This work has just commenced its sixth volume. The form has been changed from a quarto to a royal octavo of sixteen pages, each number. It is neatly printed, and is well filled with matter which we doubt not is highly interesting to the "brethren of the mystic tie." Published monthly, at Albany, by L. G. Hoffman. One dollar a year in advance

PRODUCTS OF THE YEAR 1844.

Wheat.—This great staple product, has yielded variously in different sections of the country; but in a territory embracing so many degrees of latitude, and possessing so varied a climate, it can hardly be expected that the same crop will succeed equally well in all parts, the same season. In Maine, New-Hampshire, and Vermont, Spring-wheat is generally cultivated, as it is considered better adapted to the climate than the winter wheat. The worm in the head (*Cecidomyia tritici,*) improperly called weevil, has prevailed there to such an extent for several years, that this crop has been considered quite uncertain. The insect has, however, been less destructive during the two last years, and from all the accounts we have seen, the yield of wheat in that section has been generally good the past season. In the eastern part of this State, (New-York,) the insect above mentioned injured the winter wheat to some extent, but in the Genesee Valley and the great wheat districts of the State, the crop was good. In northern Indiana, northern Illinois, Michigan and Wisconsin, the *fly* (*Cecidomyia destructor,*) did much injury to the crop—in many instances occasioning almost a total failure—and we are informed that this enemy has already made its appearance in great force in the early fall-sown wheat. In the southerly part of Ohio, Indiana and Illinois, wheat in many cases did not fill well. The growth of straw was very great, but the prevalence of warm, wet weather occasioned much of it to fall down or rust. This was quite generally the case on rich land. On the uplands of not so rich a quality, the crop was better and the grain plumper and heavier. Taking the western States together, however, we think the wheat crop did not give an average yield per acre, though from the large quantity of ground sown, the aggregate product was not probably less than in any previous year. So of the country at large; there was, probably, as much wheat produced the past season as in any former one.

Indian Corn.—Although this crop did not appear so promising in the fore part of the season, owing to the coldness and backwardness of the spring, yet the mild and favorable weather of the latter part of the summer so well matured the plant, that the yield has generally been an uncommonly good one. In the northern and eastern States, as well as in Canada, we feel justified in stating, that so good a crop has not been generally got for several years. This is a crop of very great consequence to all sections of the country, and for *home consumption,* is undoubtedly of more value, every thing considered, than any other kind of grain. Well has it been said by a distinguished agricultural writer, that it is "*meal, meadow, and manure.*" The grain affords a most wholesome and nutritive food for man and beast, the stalk and leaf afford, when properly cured, a most excellent fodder for cattle; in fact, from no grain crop can so great an amount of sustenance be raised per acre, and from none can so good a return be given to the land in the shape of manure.

Oats.—This, as a grain crop, may be considered as entitled to rank next to the preceding in importance. As food for horses, especially those which are employed in quick work, oats are preferable to any other grain, and constitute the most convenient food which can be given. The yield this year is generally good, in most sections.

Rye and Barley.—These are less cultivated than any other grain. In some neighborhoods, barley might be cultivated more largely to good advantage. On soils to which it is well adapted, it will produce from forty to fifty bushels per acre. The straw is excellent fodder for sheep and cattle.

Hay.—In the easterly part of Massachusetts, and some other sections, we have complaints that the crop of hay was much cut off by drouth, but taking the country together, we think the crop was at least an average one, though the quality may not be so good.

Potatoes.—This crop has suffered much in many districts from the epidemic which seems to be overspreading this country, as well as the old world. Considerable alarm is justly excited from the prevalence of this disease. To the northern portion of this country, as well as to a large portion of Europe, the potatoe crop cannot be considered of less value than any other. It has become an important article of human sustenance among all classes. By the rich it is prized as a wholesome and palatable article of diet, while to the poor it is indispensible—affording more sustenance in proportion to the expense of production, or to a given extent of land, than any other crop. Where it has not been affected by disease, the crop of the past season, has been generally a good one.

Fruit.—We do not recollect any year in which the different fruits have been so abundant and of so fine a quality, as the last. The various stone fruits, particularly plums, have been uncommonly plenty and good. This may be in a great degree owing to the disappearence of the curculio, which for several years has been so deadly an enemy to this description of fruits. Apples are generally plenty. From Maine and New-Hampshire, we hear that best kinds are almost a drug. We should suppose they might be exported to good advantage. We believe the apples of that region are generally found to keep better than most others, and are well liked in the southern markets. What better article can the farmers of Maine turn their attention to, than good winter apples for exportation ?

THE POTATOE PLAGUE.

The disease which has largely affected the potatoe crop in Europe and America during the last two or three years, (though in this country chiefly during the *last* season,) is exciting anxious inquiry among the community, and close observation among scientific men. Mr. Teschmacher of Boston has published the result of his observations; and we now add the opinions of another gentleman of New-England, Prof. Charles T. Jackson, who left the following hasty note in reply to inquiries made while he was passing through this city:

Albany, Sept. 23, 1844.

Dear Sir—While passing through the western part of New-York, my attention was called to a peculiar disease, which affects the potatoe plant this year, and having heard something about it in Michigan and Wisconsin, I was anxious to examine the first potatoe field where the disease could be witnessed. This I had an opportunity of doing in or near the village of Trenton, N. Y., where a very intelligent farmer exhibited to me the ravages which had been effected by it in his fields. The disease was first indicated by numerous small drops of honey dew on the stems of the potatoe plant, about a month ago. Then followed a rust, with death of the stems, and the disease was found to extend along the bark to the potatoe tuber, which is a subterranean stem, and not a root as some have supposed. I observed that the potatoe began to rot next to the skin, and the disease penetrated inward in many cases to the depth of half an inch. No fruit or potatoe balls formed on any of the diseased plants, and the vines looked parched and blackened as if they had been killed by frost.

I learned that where lime had been used in the proportion of about a table spoonful to the hill, that there no disease has appeared. Also, that after vines had become affected, the best remedy was to cut the stems off close to the ground. The good farmer in Trenton said that his crop had suffered very severely; and that where he had formerly raised average crops of 300 bushels to the acre, he shall this year realize but 50 bushels. The German population who depend on digging potatoes on shares, will severely suffer this season. I would invite you, sir, to inquire into the origin of the honey dew. I find various theories offered, but none of them are satisfactory. I have heard the disease of the potatoe ascribed to the age of the plant, reproduced continually from tubers, but this cannot be the fact, for no such distinction can be found in the potatoes of various ages and kinds. The Yellow, Red, Pink Eye and Chenangoes, have all equally suffered this year. No peculiarities of soils or of manures, appear to afford any explanation, for the plant appears to have been affected in one as much as another.

The potatoe crop in Wisconsin, as I learned from a farmer just from there, has suffered severely, as have those of Illinois and Michigan. C. T. Jackson

THE PEA AND THE BUG.

A gentleman in Pennsylvania sent some peas, supposed to be wild, to J. S. Skinner, Esq., who forwarded them to Dr. G. B. Smith of Baltimore, for inspection. Dr. S., in a letter to Mr. Skinner, says:—"I have no doubt the pea you kindly sent me, is a variety of the common garden pea, acclimated, if it be acclimated, accidentally, by the seed being distributed by birds, &c. The bug is the genuine 'pea-bug,' *Bruchus pisi,* of Linnæus, and is fully described by Harris, beginning at the bottom of page 54 of his Treatise on Insects. I shall have the peas carefully raised next spring by some careful hand. Its appearance is the same every way, as that of the common brown pea that we used to have in the north when I was a boy. It is a tolerable good pea, nothing very extraordinary one way or the other.

"You hatched the bugs by wearing the peas in your breeches pocket. You can hatch the bugs out of any peas that were grown in this country, in the same way. We call it a bug—it is a *weevil;* what we call weevils, however, are not weevils—look into Harris. Is it not curious, that the pea-bug or pea weevil, does not affect peas grown in Europe? They have not that insect there. It does not generally hurt the germinating principle of the pea."

SALT AS A FERTILIZER.

Statements in regard to the action of salt, when applied to the soil, are quite various, and sometimes contradictory. Some accounts would lead us to suppose that its operation is highly beneficial, while others seem to show that its effects have been of an opposite nature.

In a paper read before the N. Y. Farmer's Club, by F. Mortimer Butler, Esq., a copy of which we find in the Farmer and Mechanic, is some interesting suggestions which tend to reconcile former discrepancies, and perhaps show the true theory on this subject.

Mr. Butler entertains the idea, that for salt to act beneficially, it is necessary that it should be combined with lime, or calcareous earth—that "whenever salt and lime have been used together, the effect has been good; while on the other hand, where either is used alone, there is need of some other governing material, or the effect is not good." Mr. Butler supports this conclusion by reasoning on the chemical properties of salt and lime—by reference to several writers who speak of the beneficial effects of the two substances when mixed together—and by some facts which have fallen under his own observation. From an investigation of this subject, he was prompted "to use salt upon a field which had been rendered caustic by an injudicious application of lime. Buckwheat, sown upon this field, had its roots so scorched that the three acres yielded but four bushels of seed." Grass seeds were sown three several times on the field, but, he observes, "did not take well, excepting in one spot, where a single load of yard manure had been strewn; this governed the lime; the Timothy grass came in, and grew full five feet high."

"At this period," (says Mr. Butler,) "coming into charge of the field, I sowed it with about one bushel of fine salt to the acre; in less than two weeks time the clover and timothy came in plentifully, and did well, field pastured."

In conclusion, Mr. Butler says—"the agricultural facts that have come to my knowledge have shown me, that salt has succeeded best upon lands naturally calcareous, lands previously limed, or upon lands limed at the time of its application. Salt, even when accompanied with lime or the carbonate of lime, must not be depended upon for a crop in the absence of a due supply of organic matter. Salt is but a corrective when decomposed in the earth, it then acts as an alkali, or in other words, the beneficial results that follow its decomposition, depend upon the action that the liberated alkali (soda) exercises upon the organic matter of the soil."

Envy is a turnkey by birth, and an executioner by profession.

NATURE OF FOOD, AND THE RELATIVE VALUE OF VEGETABLES AS FOOD.

It seems to be generally conceded at the present time, that the principal value of any food for the purpose of nutrition, is depending on the azote or nitrogen it contains. This, Prof. Liebig, Mr. Madden, Prof. Johnston, and others, in the main agree on this point, as do Boussingault and Bechstein. Prof. Liebig says, "the substances of which the food of man is composed, may be divided into two classes; into *nitrogenized* and *non-nitrogenized.* The former are capable of conversion into blood, the latter incapable of this transformation. The former may be called the *elements of nutrition,* the latter, *elements of respiration.*" Parts of the former are derived from vegetables, and are as follows: vegetable fibrine, vegetable albumen, and vegetable casine; to these are to be added animal flesh, and animal blood. Parts of the latter, or the elements of respiration, are derived from both animals and vegetables, and are as follows: fat, starch, gum, cane sugar, grape sugar, sugar of milk, and some few other products. Liebig has demonstrated that the nitrogenized constituents of vegetable food, have a composition identical with that of the constituents of the blood; and that no nitrogenized compound, the composition of which is different from fibrine, albumen, and caseine, can support the vital process of animals. As a matter of practical utility to every farmer who keeps animals, we give from Boussingault, the following table, exhibiting the relative value of different kinds of food calculated on the amount of nitrogen they contain, or in other words, on the quantity of vegetable fibrine, albumen, and caseine they will furnish to the circulation.

Article.	Am't per cent of solid matter.	Am't per cent of nitrogen.	Val. compar'd with hay as 100.
Hay from Red clover in flower,	83.4	1.76	60
Hay of Vetches,	89.	1.41	74
Lucern Hay,	83.4	1.35	75
Common Hay,	88.8	1.04	100
Green Clover,		.50	208
Potatoes,	7.7	.37	281
Green Lucerne,		.30	347
Carrot,	12.4	.30	
Wheat Straw,	80.7	.20	520
Barley Straw,	89.	.20	
Oat Straw,	79.	.19	574
Rye Straw,	87.8	.17	611
Turneps,	8.2	.17	612
Beans,	92.5	5.11	20
Vetches,	85.4	4.37	24
Kidney Beans,	95.	4.08	25
Lentils,	91.	4.00	26
Yellow Peas,	83.3	3.40	31
Wheat Flour,	87.7	2.27	46
Wheat Grain,	89.5	2.13	49
Rye,	89.	2.04	51
Oats,	87.6	1.96	54
Barley Flour,	87.	1.90	55
Barlry Grain,	86.8	1.76	59

In this table Boussingault has taken good common hay at 100 as the standard. Thus 60 lbs. of good hay from red clover in flower, is equal in nutriment to 100 lbs. of common hay, 281 of potatoes, or 520 of wheat or barley straw. The leguminous plants, such as the beans, vetches, lentils and peas, afford the most nitrogen, and every farmer knows they rank deservedly high in the scale of nutrition; still, as they are destitute, or nearly so, of the phosphates required for the formation of bone, experience proves they are the most useful when fed in connection with some of the cerealia, or grains. We believe that most farmers will find that their experience in feeding animals, agrees very well with the estimates of the table. Thus in soiling, 208 lbs. of green clover, or 347 of green lucerne will be found equal to 100 lbs. of hay, a result which few will doubt who have made experiments in this mode of feeding. 46 lbs. of wheat flour are equal in nutriment to 281 of potatoes; but the animal would fare better on the potatoes than the flour, as there would be more bulk for the proper distention of the stomach.

The Gavel, devoved to Odd Fellowship and General Literature. Three numbers of this work have been issued. It is a well filled octavo of twenty-eight pages. Edited by Rev. C. C. Burr. Published monthly at Albany, by John Tanner, at one dollar a year in advance.

DISEASE IN POTATOES.

We see by the N. E. Farmer that Mr. Teschemacher continues his experiments with a view to ascertain the cause of the potatoe-malady. We have before stated that he has discovered a fungus attached to the potatoe. He is now of the opinion that the fungus is the cause of the disease. His reasons for this opinion are, that "the fungus appears on the skin of the potatoe, and can be traced by its dark color penetrating from the outside by degrees into the sound inside, the outside fungus developing itself first, and producing slime and rottenness, while the inside yet remains firm and sound. If the fungus resulted from the potatoes first becoming rotten and thus forming favorable circumstances for its vegetation, then the presumption is that we should sometimes, although perhaps rarely, find parts of the potatoe rotten without the fungus, which, I, at least, have not seen." Mr. T. observes that he has often seen heaps of rotten potatoes, without having noticed this peculiar fungus, which cannot be mistaken on account of its peculiar smell. He thinks if it was a disease merely affecting the rotten potatoe, it would long ago have been observed. In regard to the propagation of this fungus, Mr. Teschmacher is induced to think, from the fact that the tops of potatoes have generally died down and thus indicated the disease, that it has been propagated by the seeds or spores floating in the atmosphere and attaching themselves to the stalk of the potatoe, on that vegetating, and extending downward to the point of junction with the tuber, there producing decay and the death of the upper part of the vegetable, and afterwards the decomposition of the tuber.

In regard to the idea that *insects* have caused the defect in potatoes, Mr. Teschmacher observes, first, that the worms which have been found in them "are the same which are found in all rotten potatoes from whatever cause the decay may arise," and second that "the potatoe decays previous to the worms appearing, for the worms are never found in the sound part of the potatoe eating their way in or depositing their eggs, and it is only in the most rotten part that the worms exist, after the fungus has caused this decay."

Honey Dew.—We would call attention to the remarks of Dr. Jackson and Mr. Boyd, in this number, relative to the defect in potatoes having been occasioned by "honey dew." The circumstance mentioned by Mr. Boyd, of the potatoes, over which a carpet was spread, remaining green and healthy, while the remainder of the field was destroyed or much injured, is worthy of particular remark.

Respecting the nature or cause of "honey dew," we believe neither philosophers nor agriculturists are entirely agreed. It has been said that this substance is the exudations of insects called *Aphides*, or plant lice. That the sweet substance which is known to exude from these insects has been sometimes called "honey dew," is no doubt a fact; but that the "honey dew" is always derived from the insects, we cannot believe. Fields of rye and other grain, are sometimes struck with the "honey dew," when no signs of insects can be discovered.

Several theories have formerly prevailed on this subject, but so far as we are acquainted, the most generally received one at the present time is, that a peculiar state of the atmosphere occasions the bursting of the sap-vessels of the plant, by which the sap is exuded to the outside of the stalk and leaf. The sap there becoming acrid together with the derangement in the functions of the plant, is supposed to occasion the *blight* or *rust* in grain. And hence the prevalent idea that a "honey dew" always precedes blight.

We are not prepared to vouch for the correctness of the bursting of sap vessels, &c.—our own opinion is that the matter is not yet fully understood, and we would recommend continued investigation and observation, and have no doubt additional light will be obtained.

The communication of the Rev. Mr. Abbott, in a late number of the N. E. Farmer, seems to support the theory mentioned by Dr. Jackson and Mr. Boyd. Mr. Abbott thinks that the wet and warm weather produced an overflow of sap. He found the stalks and leaves of oats were burst open, and a gummy substance had oozed out. He thinks a similar effect was produced on the potatoes, and that the disease which has affected them is "similar to rust or blight in grain."

Since writing the above we have met with the following explanation of *mildew* and *honey-dew*, in a report of a lecture delivered by Mr. Heywood before a Farmer's Club in England:—"The former he stated to be caused by the rapid evaporation of water from the leaves of plants after a wet spring, when the salts the water contained were left on the surface of such plants as were already nearly matured, while others which were in a growing state, appropriated them to their uses; hence this effect on late sweedes and not on early ones. Honey-dew was caused by an excess of carbon in the plant, which could only occur in dry weather, when the other ingredients could not be furnished for it to combine with."

COMPOUND FOR FATTENING CATTLE.

Flax-seed and oil-cake have long been considered very valuable for fattening cattle. The English farmers prize these articles highly, and great quantities are imported and used in the British Islands. Oil-cake is even carried from this country to fatten English beef. One great advantage which the English farmer thinks he derives from the use of it, is the improved quantity of the manure, and this is considered of such consequence as to balance a large portion of the expense of the cake. Flax-seed or linseed *oil*, has likewise been sometimes used, mixed with bran, &c., for fattening animals, and the effect has been a very rapid gain. We have occasionally used flaxseed for cattle with good advantage, by boiling it and mixing with meal, cut hay, &c. We recollect the practice of one man in particular, who, more than twenty years ago, was considered to have great success in fattening cattle. He boiled a quantity of ground flax-seed, or instead of that, pulverized oil-cake, with potatoes, and scalded in meal, (either from barley or corn,) in such quantity that when the mixture was cold it could be cut out in pieces, and in that shape was given to the cattle while they were in their stalls.

In the third volume of the American Farmer, is an article by Nathan Landon, of Litchfield, Conn., on the subject of feeding cattle with cut straw, oil-cake and flaxseed. He says he fattened an ox and a three year old heifer, with less expense, even, than that of common keeping, by the following process. He says—"I boiled about two quarts of flax-seed and sprinkled on to cut straw, which had been previously scalded and seasoned with salt, together with some oil-cake and oat-meal, working them together in a tub with a short pitch fork, till the whole became an oily mush. I fattened the heifer first—she was of ordinary size, and in good order to winter. I gave her about three pecks, [of the mixture] which she ate voraciously, and in the course of four days, when the seed was gone, she was visibly altered. I fed her regularly in that way about two months, in which time she had eaten about one bushel of boiled flax-seed, with the other ingredients in proportion,—when she was butchered, she weigned 584 pounds, 84 pounds of which was tallow. She would not have sold before fattening for more than $16. I sold two quarters of her beef for $18,13. She cost me not more than $10, exclusive of the hay and straw she ate, which was chiefly scalded as above. On the first of February I began with the ox. I fed him about three months, but not altogether so well as I did the heifer. He digested about one pint of boiled flaxseed a day, prepared as above, which I suppose formed half the fat in these two cattle. The ox was short, measured [girthed] seven feet two inches, and when killed, weighed 1082 pounds, and had 182 pounds of tallow. He cost me while fattening, twenty-five cents a day; he had previously cost me thirty-five cents. My nett gain in fattening these two cattle, was more than all I have cleared before in fattening oxen and cows in fifteen years; and this is owing, I think, chiefly to the use of flax-seed. I never fattened cattle that appeared so calm, so hearty, and digested all their food with so much natural ease and regularity as these. I kept my cows in the same way in the month of March for one-third the expense of hay. It makes excellent milk and butter."

We have lately seen frequent recommendations of an article used in England for fattening cattle, called "Warnes' Compound." Sir Charles Burrell, in a letter published in the Farmers' Journal, gives an account of the mode of making this celebrated compound, from which we gather the following. It is said to be a very economical and efficacious food.

1st. Let a quantity of linseed be reduced to fine meal, that is to say, let every seed be thoroughly broken. 2d. Put about 156 pounds of water into a copper, and let it boil. 3d. Stir into the water quickly 2 lbs. of the linseed meal, and let it boil for about five minutes. 4th. Let 63 lbs. of barley or bean meal be sprinkled upon the boiling mucilage by the hand of one person, while another as rapidly as possible stirs and works it in. The whole will now have assumed the form of a thick mess or pudding. The fire should be put out, and in a short time the food may be given to the cattle. When cold, the compound should be perfectly stiff. Many farmers put it into moulds like those used for bricks while hot. The compound is generally given in small quantities at first, and increased at pleasure—for the first week, 5 lbs. or 7lbs. per day, when according to the size of the animal and quality of other food given, the quantity may be increased to 14 lbs, 21 lbs, or 28 lbs per day. To make cattle compound with potatoes or white carrots, nothing more is required than, after having been properly steamed or boiled, to remove them from the vessels, *as hot as possible, into a trough,* then sprinkle some linseed meal upon them, and knead the whole into a mass with the rammer. The compound may be put hot into the moulds and made into cakes, or used from the trough. Less labor will be required, if the roots are removed from the cooking vessels in small quantities, and incorporated with the meal. The proportions must be left to circumstances and to the cost at which cattle are intended to be fed. The effect of giving only one pound of linseed meal per day to a bullock, when incorporated with potatoes or carrots, will soon become visible; but if a pound or two more were added, the animal would fatten at a rate which those alone who watched the proceedings could believe.

CURING MEAT.

The difference between doing a thing right, or doing it wrong, is perhaps nowhere more obviously shown than in curing salted provisions. There are few people who do not relish a slice of nice ham, or corned beef; and many a good housewife can speak of the various advantages, in the mysteries of cookery, which belong to well-cured, clear, pickled pork. It is a very easy matter to have all these things of good quality, yet it is too often the case that we find them put up or managed in so careless a manner, that they are either actually unwholsome, or in such condition that they can only be eaten by persons of the strongest appetites.

Hams.—The following mode of preparing hams, we have practiced for several years, and can with confidence recommend it to others.

For every one hundred pounds of meat, take five pints of good molasses, (or five pounds brown sugar,) five ounces saltpetre, and eight pounds rock salt—add three gallons of water, and boil the ingredients over a gentle fire, skimming off the froth or scum as it rises. Continue the boiling till the salt, &c. is dissolved. Have the hams nicely cut and trimmed, packed in casks with the shank end down, as the pickle will thus strike in better. When the pickle, prepared as above, is sufficiently cool, pour it over the hams. They may lie in pickle from two to six weeks, according to the size of the pieces, or the state of the weather—more time being required in cold, than in warm weather. Beef or mutton-hams, intended for smoking and drying, may be cured according to this mode, and will be found excellent.

Much of the goodness of hams depends on smoking. They should be hung at such a distance from the fire, as not to be heated. They should also be hung up with the shank end downward, as this will prevent the escape of their juices by dripping. Small hams, wanted for immediate use, will answer with two weeks' smoking, but larger ones, and those wanted for keeping, should be smoked four weeks or more.

Different articles are used for smoking. Perhaps sawdust from hard wood, where it can be conveniently had, is on the whole to be preferred. Corncobs are first rate, and are said by some to make the "sweetest" smoke of anything. Chips of maple and hickory, or the small twigs and branches of those kinds of wood, do well.

Hams are sometimes cured by adding pyroligneous acid to the pickle, but having had no experience with this mode, we cannot speak of its advantages. Another mode, which we have seen practiced, is to *smoke the barrels or casks* in which the hams are to be kept, and let them remain in pickle till wanted—only taking them out a sufficiently long time before using, to allow them to drain properly. The barrels are smoked by being placed over small fires of chips, cobs, &c. for several hours. The essence of smoke which is thus imbibed by the barrel, is imparted to the pickle and thence to the meat.

Beef.—The best pieces for corning, are the plates, ribs and briskets. Pack the pieces in casks, giving a very slight sprinkling of salt between each piece. Then cover the meat with a pickle made by boiling together, in 4 gallons of water, 8 lbs. salt, 3 lbs. brown sugar, 3 oz. saltpetre, 1 oz. pearlash, for 100 lbs. meat. Keep a heavy flat stone on the meat, that it may be well immersed in the pickle. Beef packed in this manner will keep a year, and will rather improve than grow worse.

Another mode recommended by a gentleman of long experience in the packing of beef and pork, is the following: For 100 lbs. beef take 4 lbs. brown sugar, 4 oz. saltpetre, and 4 quarts of fine Liverpool salt—mix all intimately together, and in packing, sprinkle it evenly over the meat. Add no pickle, the dissolving of the salt, &c. with the juices of the meat, will be sufficient. Keep the meat closely pressed together by a good weight. We are assured that this is the best mode of packing beef that is intended for keeping over the summer, and that the quality of the meat is unexceptionably fine.

Clear pork.—For this we prefer clear salt and water. After having divided the hog, take off the shoulders and hams, and all the lean meat, cut the sides crosswise into strips, four or five inches wide, and after covering the bottom of the cask with salt, pack the strips in layers set edgewise as closely as possible round the cask, with plenty of salt between each layer. When the cask is full and has settled for a day or two, put in cold water enough to fairly cover the pork. There is no danger of using too much salt for clear pork—no more will be taken up by the meat than is needed, and the remainder is safely left and may be used in packing a new parcel.

Beef and Pork for the English Markets.—A great obstacle to the introduction of our beef and pork into England, has formerly been the bad condition in which these articles have been put up. It appears, however, from a table of exports from the port of New-York, that there has been a considerable increase in the exportation of both beef and pork during the present year—there having been sent out from that port alone, 30,015 bbls. more of beef, and 37,903 bbls. more of pork, than in 1843. This increase of exports is thought to be mainly attributable to the introduction of our provisions in England. The improved condition of our beef in particular, it is said, has caused it to be rapidly gaining favor with the English consumer. And as we pay more attention to packing and become better acquainted with the English mode, the trade will no doubt become every year of more consequence. Our *Cheese* is also becoming an article of considerable importance for exportation to England, and when our dairymen can be induced to pay that attention to its manufacture, which is necessary to adapt it to the English market, the exports will probably greatly increase.

Connecticut Farmer.—A new series of this paper, published at New-Haven, was commenced on the 1st Nov. It it well printed, on new type, and published semi-monthly, at $1.00 a year, by J. M. Patten.

Bury not your faculties in the sepulchre of idleness

INFLUENCE OF WATER ON THE TEMPERATURE OF SOILS.

It is well known that a really wet soil, as well as a very dry one, is unproductive. The various operations of an excess of water in checking vegetation, are not all, perhaps, easily told, but there is no doubt that one of the most important of its injurious effects, is the low temperature which it induces in the soil. It is very common, when speaking of soils, to couple the term *wet* with *cold*, as such a soil is " wet and cold." Now the popular idea expressed in this case, is undoubtedly correct—that is, a wet soil, is of course a cold one. Several reasons why this is so, might be given; one of which is, that the degree of temperature which would otherwise communicate heat to the soil, produces evaporation, by which the heat is abstracted from the soil and dissipated in the air. There are other causes for the deleterious action of an excess of water in soils, but whatever they may be, it will be readily admitted that a removal of the evil by thorough draining, is expedient. In an essay by Josiah Parkes, published in the Journal of the Royal Agricultural Society, we find the philosophy of this subject illustrated in a manner more clear and satisfactory, than we have before met with. Mr. Parkes observes—

" As heat is generally considered to be an imponderable body, we are without the means of ascertaining directly by weight or measure, the quantity of heat absorbed from soil by the evaporation of water. The following illustration of it will, however, be familiar enough to the mind of the engineer, and will also, I think, enable intelligent farmers to form an idea of its immense amount."

" If we suppose the rain falling on the surface of an acre of land in a year to be 30 inches in perpendicular depth, it would amount to 108,900 cubic feet—3,038 tons; which, spread over a twelve-month, gives an average of 298 cubic feet—8½ tons, or 18,647 lbs. per diem. This weight of water would require for its diurnal evaporation —supposing it were all carried off by that means—the combustion of 24 cwt. of coals, as ordinarily used under the steam boiler, or *one cwt. per hour per acre*, throughout the year! We thus obtain some idea of the abstraction of heat from land under the circumstances of perfect aqueous repletion and stagnation, and there are too many soils approaching them. We may also imagine the depression of the terrestrial temperature consequent on the abstraction of so much heat from the mass of the soil—a depression which must ever be in proportion to the excess of water present in the soil, over and above the due complement required for the supply of vegetation. Soils in that state must necessarily be very cold in the spring months, and much colder at the time of the commencement of vegetation, and throughout the summer, than well drained or naturally drier lands. If we knew the capacity for heat of any given soil, and the weight of water mixed with it in excess, it would be easy to determine, very nearly, the depression of temperature caused by its evaporation. We know that the heat of a pound of water in its gaseous state, that is steam, would keep down the temperature of 1,000 lbs. of earth one degree; of 500 lbs. two degrees, and so on."

" Secondly, excess of humidity obstructs the absorption of heat by the solid matter of the soil. Water in a quiescent state, is one of the worst conductors of heat with which we are acquainted. If it be warmed on the surface—and it derives, when mixed with soil, nearly all its heat from the sun's rays—water transmits little or no heat downwards."

" If a mass of water be heated from below, the whole quickly attains an uniform temperature by reason of motion excited amongst its particles. The lowest stratum, when heated, becomes of less specific gravity than that resting upon it, and the heavier superincumbent portions descend and push that which has been warmed, upwards. Much of the heat of the sun's rays, is, therefore prevented by excess of water from entering into, and being transmitted through, the mass of the soil."

" Thirdly, water is a powerful radiator of heat, that is it cools quickly. All bodies, whether fluid or solid, possess peculiar powers of emitting or radiating heat, and water is esteemed by the late Professor Leslie—in which opinion he has been joined by other philosophers—to stand at the head of radiating substances."

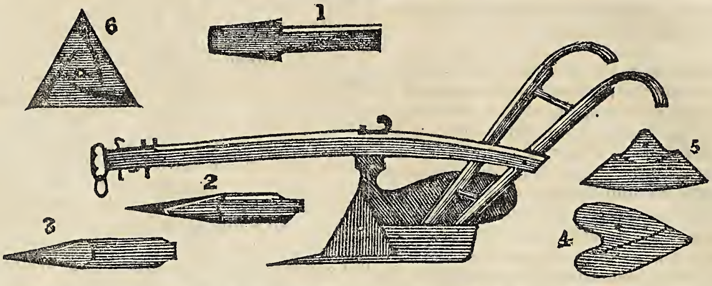
" The phenomena of the production of cold by radiation and evaporation, are essentially exemplified by the well known experiment of exposing water, warm enough to give off visible vapor, in one saucer, and an equal bulk drawn from a well in another saucer. The former on a sharp frosty morning, will be found to exhibit soonest. Boiling water thrown on the ground, will freeze sooner than cold water. The cooling powers of evaporation and radiation combined, and if radiation chiefly, or solely, are represented in this experiment by the order of congelation in the two vessels in time; but the difference in the quantity of heat omitted from each of them, is immense, as appears from what is stated above with reference to the constituent heat of vapor."

" Fourthly, as the temperature of water diminishes during the night, or in the day time, according to the varying conditions of the atmosphere, by radiating its heat to the heavens, its specific gravity increases; and the superficial stratum which is first cooled, immediately descends by reason of its augmented density. This film of cooled and heavier water is as quickly replaced by relatively warmer and lighter portions which become cooled in turn and successively sink. Water, therefore, though a non-conductor of heat downwards, when warmed on the surface, becomes a ready vehicle of cold in that direction, when cooled on the surface; and this cooling process may even continue, under fitting circumstances, until the whole of a given mass is reduced to the low temperature of 42 deg., at which point, water attains its maximum density. The further descent of cold through this process, would then cease; but the refrigeration occasioned by it must effect all soils, to a greater or less degree, which hold water in excess, that is, when in a state of stagnancy near to the surface. Those soils only can be exempt from this chilling influence which are not naturally retentive of water, or which are artificially and deeply drained. Thus excess of water conduces to the production of *cold* in soil by means of several independent, vigorous, and ever active properties."

" On the other hand, when a soil is naturally so porous, or is brought into such condition by art, that rain-water can sink down into the earth, it becomes a carrier, an alert purveyor, instead of a robber of heat; and tends to raise, permanently, the temperature of the mass of useful soil; and this more particularly and beneficially, during the vegetative season. Rain-water, at that time, conveys downwards the more elevated superficial heat of the soil, and imparts it to the subsoil in its course to the drains; it leaves the soil in a fit state to receive fresh doses of rain, dew, and air, and in a better condition to absorb and retain heat, at the same time that it promotes, in other ways, its fertility and productiveness; but a consideration of the chemical effects attributable to the continual circulation and renewal of water and air is foreign to the present discussion."

" In order to render the change of water perfect, and its action uniform throughout a field, all drains should be deeper than the active or worked soil, and covered. Superficial drainage is comparatively of little value. If drains are open, much of the rain precipitated on the surface necessarily passes into them before it has permeated the whole mass; consequently it carries off with it heat, which would have been usefully employed in warming the lower strata. If drains are not deeper than the worked bed, water remains before in a staghant state, which must chill the roots of plants and diminish the temperature of the superincumbent mass."

Crops in Illinois.—Extract of a letter from H. A. Cyrus, Esq. dated Houston, Oct. 17—" In Adams county, the past season, the crops have been, of wheat, about an average; oats, good; corn and potatoes, poor, say two-thirds of an ordinary crop; these last, in part of this and the adjoining counties, are very inferior—had well nigh proved a failure; but in other places are very fine. It has snowed more or less, for three days past, and the ground is now covered from 3 to 4 inches. This is an early start for winter, in middle Illinois."



B. WOODCOCK'S SELF-SHARPENING PLOW—(Fig. 99.)

In reference to this plow, the manufacturers enumerate the following advantages:

"1st. Individuals who have used it, say its draught is about one-third less than other plows—two horses doing the work of three. 2d. It is constructed so as to turn a furrow against a moderate hill equally as well as on level ground, or down hill, and competent judges say it is superior to either the Crane, Hornet, Bull, Crockett, Franklin, Peacock, Patent-lever, or any other plows they have used, as it performs with more ease to man and horse, and makes better work. It turns the furrow round on the top and hollow below, thus leaving the plowed surface more exposed to the action of the harrow, than other plows, and gives the vegetable matter a better chance to decompose than if turned flat or irregular. 3d. It is comparatively free from choking or carrying dirt, and is said to make the ground more productive than other plows. 4th. It admits of three kinds of points and two kinds of shares, (but one point and one share being used on it at the same time,) of which the following is a description: First, the metal point, (fig. 1,) can be turned upside down when the under side wears round, at which time other points become useless, and thus repeated until worn out. The second (fig. 2,) is a renewable point, made of cast or wrought iron, and is formed to receive a piece of iron or steel on the end secured by a rivet. The third (fig. 3,) is also renewable, and made of wrought or cast iron, with a V formed piece of iron or steel on the end fastened with a rivet. These can be renewed with little expense. The first share (fig. 4,) has two edges, and turns laterally. When the outer edge wears dull, the inner edge may be turned out. The second share, (fig. 5,) is self-sharpening, with one edge, which, when beveled below, can be turned end for end and thus throw the beveled side up. One metal point and share costing 25 cents, can plow 40 or 50 acres of good ground, to which fact hundreds can testify. 5th. The cutter, (fig. 5,) is made in a triangular form with three sharp edges; when the front edge wears dull, the under edge may be turned in front, then the third, until worn out. Thus the friction parts of the plow are renewed with little expense, as it is in detached pieces." These plows are manufactured by B. Woodcock & Co. Wheeling, Va.

INDUCEMENTS TO EMIGRATION TO VIRGINIA.

To the Editor of the Cultivator—Having observed in the newspapers that there is a growing disposition among our northern friends, who are inclined to emigrate, to turn their attention to Maryland and Virginia, I have thought it might be acceptable to some of your numerous readers, to have laid before them descriptions of locations in Virginia, that hold out inducements to emigrants. I shall therefore, in this communication, endeavor to lay before them a brief description of a region in Virginia, with which I am well acquainted, and also point out some of the inducements it offers to emigrants.

1st. *The region to be described.*—Its south-western boundary lies about five miles N. N. E. of Fredericksburg, Virginia; its north and north-eastern boundary, about fourteen miles from the same place, extending from Potomac Creek to Aquia Creek, about nine miles in a northern direction, and stretching westerly from Potomac river about twelve miles.

2d. *The inducements offered to emigrants.*—In this region are found nearly all the varieties of soil, that are commonly found in Virginia. Here are some ten to fifteen thousand acres of land that might be purchased, at prices varying from two to six dollars per acre, and some good situations that might be procured on *long*, and in other respects, very favorable leases. Near the middle of this district, as we proceed from the Potomac westerly, are found inexhaustible deposites of the best blue marl and green sand, the efficacy of which, as a manure, has been tested, and its fertilizing effects may be seen by any who would visit this region in the months of May and June. By the use of this marl and other resources for manure, that are found here in great abundance, directed by skill and industry, these lands might soon be restored to a high degree of fertility. Here also, are found never failing springs of excellent water, and many of the locations are as healthy as any in Virginia, and most of them more healthy than those usually selected by emigrants to the west.

The Richmond, Fredericksburg and Potomac Railroad, passes through the middle of this district, thus bringing it within easy and rapid communication, with the markets of Richmond, Fredericksburg, and the District of Columbia. To our northern friends, then, who contemplate emigrating to the west, we would say—"Come hither, and see!" A.

Fredericksburg, Va., Nov., 1844.

DISEASE OF THE POTATOE.

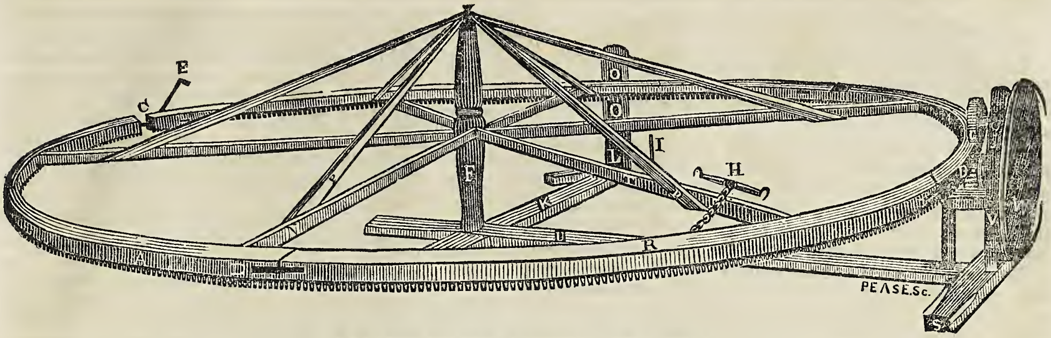
Mr. L. Tucker—Among the various speculations respecting the disease of the late potatoe crop, I have recently heard a cause assigned, which appears to me more satisfactory than any I have seen in print. It seems that on the night of the 15th of August last, there was a "honey dew," as it is called, a glutinous exhalation with a sweet taste, which settled on the herbage and leaves of the trees throughout this region of country.

A neighbor of mine informs me that a farmer of his acquaintance in Hartford county, on the afternoon before the falling of this dew, removed a carpet which his family had spread out on his grass, and spread it on a part of an adjoining potatoe patch, where it remained through the following night and morning, and that after the tops of the potatoes in the rest of the patch had entirely decayed, the tops which had been covered by the carpet, continued green until fall; and that while the rest of the crop almost wholly rotted, the part under the carpet gave a sound and abundant yield. Another neighbor informs me that on the morning when the "honey dew" appeared, he heard a farmer say that it would kill the potatoes.

Now this "honey dew" is a phenomenon of which I never before heard, but to you and most of your readers, it is probably familiar. It seems at all events, if it prevailed over the eastern and middle States at the time mentioned, to afford a rational and satisfactory solution of the much vexed question. A glutinous substance covering the potatoe tops at the period of their most luxuriant vegetation, would stop the pores and cause sudden death. The disease and death of the tops, would cause the tubers to decay in the precise manner they have done. Please give your views on this subject. and oblige

Yours, John Boyd,

Winchester, Ct., Nov. 6, 1844.



TAPLIN'S HORSE POWER—(Fig. 100.)

It will be seen by the report of the Committee of the State Agricultural Society, that the above horse power, the patentee of which received the first premium at the Agricultural Fair at Poughkeepsie, can be propelled by two horses with sufficient power, and afford sufficient speed, for threshing under all ordinary circumstances. There are however, six spaces in which horses may operate; so that almost any amount of power may be generated, and this power is applied directly to the friction rollers, in the pinion which carries the speed wheel, without a complication of machinery. Another decided advantage which this horse power possesses over most others, is the ease with which it can be taken down and moved; it can be carried in a one horse wagon, and one man can set it up ready for operating in fifteen minutes; all repairs can be done with trifling expense, by any common blacksmith. These horse powers have been thoroughly tested, and good judges of machinery give it as their opinion that the principle is the best in operation. These horse powers are made by Hull & Co., Tribe's Hill, Montgomery Co. N. Y., who have purchased of the patentee the right of the Counties of Albany, Schenectady, Montgomery and Greene, and will manufacture to order, Horse Powers and Threshers on short notice. C. D.

QUEENS COUNTY AG. SOCIETY.

Mr. Tucker—Our third annual Fair and Cattle Show was held in the village of Jamaica on the 10th inst. A thrilling interest was evinced by the thousands of enlightened agriculturists assembled on the occasion, by a most admirable and gratifying display of fine stock, of which the show of brood mares and thorough bred cows, was most extensive—some of them were of superior symmetry and fineness, and highly creditable to the farmers of the county, equalling in many respects, the exhibition at the late Fair at Poughkeepsie, where, had they been exhibited, they would doubtless have taken the first premiums. A similar opportunity I trust will not be permitted again to pass unheeded, yet to overcome which, we have two obstacles to surmount—one is, many of our best agriculturists are Quakers, who hold to the belief that all competition for money, is gambling—another is, a happy consciousness, characteristic of the inhabitants of the county, that they are well content with their situation, and that they have the only or best place of existence within the bounds of their daily occupation. Such local feelings, I trust soon will give place to a desire to promote the general good, and all endeavor by their individual exertions to make future exhibitions as great as possible, where the young can view the best stock, agricultural products, &c., from the north, the south, the middle and the west, assembled at one common meeting. The result of which, must be to those having the best, a gratifying consolation to themselves, and afford to others the best opportunity for improvement. The show of choice fruits and agricultural products, surpassed every previous exhibition, and was all that could be desired to please the most fastidious. The show of flowers was most charming; and their arrangement called forth loud and hearty praises to the "Fair," among which was a Cornucopia, tastefully arranged of Dahlias, Roses, and other choice and beautiful flowers. The horn was well filled, out of which was pouring an abundant stream of Catawba and Isabella grapes, peaches, Seckel pears, strawberries, &c., reaching to the table.

The display of fancy productions was of exceeding taste and skill, conferring exalted credit on the lady contributors.

The Address, delivered by the Hon. Gabriel Furman, of Kings Co., was replete with interest. He spoke of Agriculture as of the most dignified, laudable, and important pursuit of man. The uniform harmony and good order which prevailed throughout the day, evinced an increasing prosperity for our County Society. The premiums awarded for the year will amount to about $300.

Oyster Bay, Oct. 19, 1844. S. Y.

BOOK FARMING—A FACT.

"I want to know if you believe in this book-farming," said a neighbor, as he walked into the room, where I sat reading the Cultivator.

"Be sure I do," was the reply.

"Well, I don't; I never took an agricultural paper in my life. There is B. S. of W——, who came into this country, fifteen years ago, and had to buy fifty acres of land on credit. He has cleared that up, and added from time to time, till he now owns two hundred acres—has good buildings, and money at interest. He always has good crops. He has averaged *twenty-five* bushels of wheat to the acre for several years; it is the same with all his other crops. While his neighbor E. W. has not raised more than *seven* bushels of wheat to the acre, and some of his other crops he never harvests. I would give more for the experience of B. S. than for all the book-farming and farming by rule in the world."

"Very well, sir, now let me have a word. This 'experience' of B. S. of which you speak, (i. e. the method he adopts to raise twenty-five where his neighbor raises seven bushels of wheat, and other crops in proportion,) if written out and published, would be the very *essence* of book-farming, which you so much despise, and might benefit others as well as you. And then, secondly, I know this B. S. also, and it gives me pleasure to inform you that he is a regular subscriber to, and constant reader of *three* standard agricultural papers—the 'Cultivator,' the 'New Genesee Farmer,' and the 'Western Farmer,' while this same E. W. will not have an agricultural paper in his house, partly because he does not '*believe in book-farming*,' and partly because he *cannot afford to take such a paper*."

Here the man suddenly remembered his errand, which was to borrow an improved harrow, a plan of which I had found in my paper, and which he was pleased to say, "did the work so much better than mine," (his)—so the subject was dropped. I intend to speak to him again, ere long. H.

Okio, Oct. 1844.

Locked Jaw in Horses.—It is said that pouring water along the back from a watering-pot, for a considerable time without intermission, will effect a cure.

PEDIGREES OF COL. RANDALL'S SHEEP.

Mr. L. Tucker—I enclose you the pedigrees of the Merino sheep on which I drew the first premiums of the State Agricultural Society at the late Fair at Poughkeepsie.

My object is, incidentally, to save myself the trouble of answering almost daily inquiries on the subject, but, mainly, to throw light on an important, and among those who have not particularly investigated it, a mooted subject, viz. whether there are or are not now in the United States, pure blooded descendants of the early importations of Spanish Merinoes. Some have supposed there were none remaining; others, that the whole number remaining are confined to the flock of Hon. Wm. Jarvis. That Consul Jarvis has them, cannot be denied, unless we would put bare conjectures against the *direct testimony* of a man who concededly stands before the public unsullied in every relation of life. That others also have them, I will proceed to show by the positive testimony of various gentlemen, a portion of whom are well known to the public, and whose character and standing is not inferior to that of any in the United States.

I have, for brevity, confined myself to the representatives of but a single family in my flock; though I have other strains of blood, the purity of which is equally susceptible of proof, and which I know to be accompanied with equal value in the individual.

Andrew Cock of Flushing, Long Island, purchased imported Merino sheep of Richard Crowninshield, and various other importers. In 1823, he sold his flock to Hon. Charles Rich, whom many will recollect as a former member of Congress, from Vermont, and Leonard Bedell, both of Shoreham of that State. John T. and Charles Rich, sons of Charles Rich, senior, inherited their father's flock. John T. has kept his portion of it pure to the present day. Charles kept his pure for a period, but whether he has to the present day, or whether he retains them at all, I am not informed. Bedell kept his flock pure to the time of his death, at and shortly previous to which time, portions of it fell into the hands of various breeders, several of whom have preserved it pure to the present time. John T. Rich, S. W. Jewett, Gen. Jasper Barnum, M. C. W. Wright, and some other individuals own descendants of the Cock flock, which have been preserved pure and unmixed, a portion of them from *any other blood*—a portion of them from any other blood excepting that of Consul Jarvis's importation, by the use of rams regularly attested by Consul Jarvis to be pure descendants of his imported Spanish sheep. The ewes of mine which received the State Society's first and second premiums at Poughkeepsie, were got by "Fortune," dams pure bred ewes of the Rich or Cock stock, owned by S. W. Jewett.

The following statement by the Hon. Effingham Lawrence, of Long Island, (who acted as Chairman of the fine wooled sheep committee at the 2d State Fair at Albany—who has owned, bred and sold more pure bred Merinoes, and possesses a greater knowledge of the early importation of them, than almost any other individual in the United States,) shows the kind of sheep possessed by Andrew Cock, his skill as a breeder, and his integrity as a man.

Judge Lawrence's Statement.

Yours is duly received, in which you refer to a conversation we had, on the subject of Merino sheep, and particularly of the quality and purity of the flock of Andrew Cock, who was my near neighbor. We were intimate and commenced laying the foundations of our Merino flocks about the same time. I was present when he purchased most of his sheep, which was in 1811. He first purchased two ewes at $1,100 per head. They were very fine, and of the Escurial flock imported by Richard Crowninshield.

His next purchase was 30 of the Paular breed at from $50 to $100 per head. He continued to purchase of the different importations until he run them up to about eighty, always selecting them with great care. This was the foundation of A. Cock's flock, nor did he ever purchase any but pure blooded sheep to my knowledge or belief. Andrew Cock was an attentive breeder; saw well to his business, and was of unimpeachable character. His certificate of the kind and purity of blood I should implicitly rely on. I recollect of his selling sheep to Leonard Bedell of Vermont. EFFINGHAM LAWRENCE.

Flushing, 1844.

Statement of John T. Rich, Esq.

I certify that my father, Charles Rich, and Leonard Bedell, former residents of this town, (now deceased,) did on or about the year 1823, purchase the entire flock of sheep owned by Andrew Cock of Flushing, Long Island. Accompanying said sheep, Mr. Bedell brought a certificate that came with the sheep from Spain I have read said certificate, which gave a full description of the sheep purchased in Spain, with guarantles of their purity of blood, which was regularly attested by the American Consul then in the Spanish or Portugese dominions. I thereby had satisfactory evidence that they were all of this importation, and that many of them brought to this town, were the identical sheep imported. The certificate, I am confident, described them as from the Paular flock. The ewe that was the dam of Mr. Jewett's buck Fortune, was a pure descendant of this imported flock above described. I have preserved this flock pure to this day, which amounts to more than five hundred. Some of the flock have been recently crossed by bucks of the importation of Consul Jarvis, which said bucks were purchased from the flock of, and regularly attested by said Jarvis, as being pure Spanish Merinoes.

Shoreham, 1844. JOHN T. RICH.

Statement of Hon. S. H. Jennison, (late Governor of Vermont.)

I certify that I am personally and intimately acquainted with John T. Rich of Shoreham, Vt., the signer of the above certificate, and that his statements are entitled to full credit.

I further certify that Leonard Bedell, late of Shoreham, deceased, was a near neighbor to me, and I recollect learning from him many years since of his purchase of the flock of merino sheep, on Long Island, as stated by Mr. Rich. I have several times seen the certificate mentioned by Rich in the possession of said Bedell. I have reason to believe the portion of the Long Island flock, purchased by the late Hon. Charles Rich, and now kept by John T. Rich, have been pure as he states. I was well acquainted with the portion of the flock kept by Bedell, having handled them on several occasions between 1824 and 1830. Some of the ewes in the flock were pointed out to me as imported ones, which were toothless and very old, between the dates above named. I have several times had bucks from the flock, and never entertained a doubt of their being pure bred Spanish Merinos. Mr. Bedell called them, and I think the certificate named them, as of the Paular Breed. S. H. JENNISON.

Shoreham, 1844.

Charles A. Hurlbert's Statement.

I certify that I lived near neighbor to Leonard Bedell, in the town of Shoreham, Vt., in the year 1823, and that during that year Mr. Bedell drove a lot of sheep from Long Island, purchased of Andrew Cock.

From 1823, until the decease of Mr. Bedell, a period of fifteen years, I lived in his family, and had the charge of his sheep. Mr. Bedell kept none other but full blooded sheep of the Cock flock, and I was perfectly familiar with a number of them always asserted by him to have been originally imported. They had a distinctive mark as such, had attested marks and ring of copper in their ears, and were very old.

Mr. Bedell also had the original Spanish certificate of their purity of blood, attested by the American Consul. These sheep were preserved by Mr. Bedell, entirely free from admixture with any other blood. Previous to his decease, I selected about eighty of his ewes, which I afterwards drove to Monkton, and finally disposed of to S. W. Jewett of Weybridge. CHARLES A. HURLBERT

Monkton, 1844.

Gen. Barnum's Statement.

I hereby certify that I was born, and lived in the neighborhood of Mr. Leonard Bedell, during his residence in this town; that I well remember the flock of Spanish Merino sheep which he drove from Long Island 21 or 22 years ago; that I was familiarly acquainted with this flock of sheep until his decease in 1838, having assisted in shearing them every year during that time with the exception of three or four. Mr. Bedell had a certificate of the lineage of the sheep from Spain, certifying their purity of blood, which I have several times read; and I am *confident* that it described them to be Paular, from the flock of "Don Manuel de Godoy, Prince of Peace," &c. Mr. Bedell, though repeatedly urged to sell ewes, utterly refused, though repeatedly offered high prices by myself and others; nor did he part with any until the last years of his life. I now live on the farm formerly owned and occupied by him, and possess a large portion of the above described flock. I am confident that it has not been crossed with Saxons, or any other breeds of sheep in this country. JASPER BARNUM.

Shoreham, 1444.

Levi Rockwood's Statement.

I moved into the neighborhood of Leonard Bedell, late of Shoreham, Vt., in the spring of 1430, and soon became acquainted with his flock of Merino sheep. I have frequently heard him relate the history of his sheep. He said he purchased them of Andrew Cock, of Long Island, and that they were imported from the flock of Godoy, the Prince of Peace, in Spain, as their Spanish pedigree, in his possession, would show. He always called them Paular Merinoes, and frequently boasted of this as being the best stock ever imported. I have heard him advised to cross the blood of his flock by using bucks from other Spanish flocks, but he insisted on keeping his pure, preferring as he had done, to breed them in and in. I have seen the Spanish certificate which accompanied the sheep, but never read it.

Monkton, 1844. LEVI ROCKWOOD.

Statement of Hon. Harvey Munsill, Judge of Probate.

I hereby certify that I am personally acquainted with the above named Levi Rockwood, and have been for a great number of years. I consider him a man of truth and veracity, and believe him to be so considered by the community at large. HARVEY MUNSILL.

Bristol, 1844.

Certificates to the same general effect with the above, might be indefinitely multiplied, and the above would be promptly *turned into affidavits*, were there any occasion for such a step.

It will be observed that the sheep sold by Cock to Messrs. Rich and Bedell, were imported with a Spanish pedigree, attested to be genuine by one of our Consuls in the Spanish or Portuguese dominions.[*] This is distinctly asserted or confirmed in *every one* of the above certificates. This Spanish pedigree named them as Paulars, as appears by the testimony of all the witnesses save one, whose omission to mention the fact was doubtless casual or accidental, and Gen. Barnum distinctly recollects that they were stated to be from the flock of Manuel Godoy, Prince of Peace. Rockwood recollects with equal distinctness, that Bedell was in the habit of asserting that the Spanish pedigree described them as from the flock of Godoy, at a time when that pedigree was in existence, and open to the inspection of any one. This personage was, until his effects were confiscated, the proprietor of the Paular flock. Gov. Jennison and Mr. Rockwood mention that Mr. Bedell was in the uniform habit of calling his sheep Paulars, and this was at a time when this name would probably have attached little, if any additional value to them, in the minds of sheep breeders. Judge Lawrence distinctly recollects that Cock purchased *thirty* Paulars, at one time, of the importer—more than one-third of all the imported sheep ever purchased by him.

The original Spanish pedigree was delivered by Cock to Rich and Bedell, *as the pedigree of the sheep purchased by them.* That certificate described marks and certain rings in the ears, &c., which *corresponded with those borne by the sheep delivered.* Now if the sheep so delivered, were not the identical sheep described in the Spanish pedigree, and their descendants, Andrew Cock must have *forged* their distinctive marks, in imitation of the genuine Spanish marks, and thus been guilty not only of gross fraud, but of what would clearly constitute the *crime of swindling.* Judge Lawrence's statement shows how far such a supposition is reconcilable to his character. We have it then proved by the best testimony which the case admits of, testimony which is entirely conclusive, that Cock sold and delivered to Messrs. Rich and Bedell, not only pure Merino sheep, but pure *Paular* Merino sheep.

The certificate of John T. Rich shows that the part of the flock inherited by him, has been preserved pure from its purchase of Cock down to the present day, (a few of them latterly having been crossed with rams of Consul Jarvis's importation,) and now amounts to 500. It would have been an *insult* to this gentleman's high and unexceptionable character to have published the endorsement of it, contained in the certificate of his intimate friend Governor Jennison, were it not that his statements were to be read far from his native state and the circle of his acquaintance. That Bedell also preserved his flock pure from the time of its purchase to the time of his death, is proved by the individual who had charge of it during that entire period; by Bedell's successor on the farm, who was constantly acquainted with that flock, and assisted in shearing it 12 out of the 15 years during which Bedell lived after he purchased it; by Rockwood, and finally by his near neighbor Gov. Jennison, who fully confirms the testimony, on this point, of all the other witnesses.

Besides the purchase of 80 ewes of the Cock stock by S. W. Jewett, alluded to in C. A. Hurlbert's certificate, I have lying before me the statements of various other purchases, by the same gentleman, from both the Bedell and Rich branch of the same stock, which it is not necessary to publish. Mr. Jewett's certificate of the pedigree, &c., of the ewes exhibited by me, is as follows:

WEYBRIDGE, ——, 1844.

I have this day sold Henry S. Randall, of Cortlandville, N. Y., for the sum of $200, eight yearling pure bred Spanish Merino ewes, being the choice of my entire flock. Said ewes were got by my buck Fortune, dams ewes of the Rich stock, and they have a half penny taken from the under side of the right ear. Their fleeces averaged 5 pounds of washed wool, and the four accompanying samples[†] were taken from four of them. S. W. JEWETT.

The pedigree of Fortune's dam has been given in Mr. Rich's statement above; that of his sire is thus stated by his breeder:[‡]

Statement of Tyler Stickney, Esq.

The ram which was the sire of Mr. Jewett's buck Fortune, I purchased of Consul Jarvis, of Weathersfield, in the year 1835. He sold the same to me for a pure Spanish Merino ram—ear mark, a notch under each ear. TYLER STICKNEY.

Middlebury, 1844.

No authentication of this statement is deemed necessary, as probably there is not a sheep breeder within fifty miles of Middlebury, who is not perfectly conversant with the history of this wonderful ram.

The history of Consul Jarvis' importation, and his formal attestations of the purity of the rams sold by him, would unreasonably extend the limits of this communication, and probably they are not necessary, to the full substantiation of the pedigrees. He is yet alive; and the history of his importations will be found in a letter addressed to me in the first vol. of the Transactions of the N. Y. State Agricultural Society, page 320.

As I have already remarked, I have other strains of blood in my flock, some entirely distinct from the above, some a mixture between the above and other distinct strains. Their pedigrees are equally susceptible of proof with the above, and are *always open to inspection.*

Yours respectfully, HENRY S. RANDALL.

Cortland Village, Nov. 1844.

ORIGIN OF GUANO.

Concerning the extraordinary fertilizer which is now exciting wide-spread interest in the agricultural world, (and we may add, in the commercial world also, seeing that so many vessels are employed in the traffic,) we are indebted to Dr. James Eights of Albany, for the following memoranda. The opportunities for observation presented by the Expedition—the *first* American Exploring Expedition—in which he was employed as Naturalist, certainly furnished ample scope for judgment on the subject to which Dr. Eights refers:

"Much has recently been said," observes Dr. Eights, "and various have been the conjectures respecting the origin of the justly popular manure termed 'Guano,' brought in such vast quantities from the numerous Islands and headlands of the African and South American coasts; but little or nothing of a definite nature has as yet I believe, appeared in print. All writers on the subject, however, seem to agree in considering it to be the production of some piscivorous birds.

As much uncertainty seems yet to prevail, permit me to cast my faggot on the pile, by offering to such of your readers whom it may concern, the substance of some extracts taken from my notes of a voyage, made several years since to the South Atlantic, Antartic and Pacific Oceans; and likewise, some remarks from personal observations of at least one of the birds that largely contribute to its formation.

Being moored at the Island of St. Mary's on the coast of Chili, (latitude 37 south,) I was at an early hour in the morning, called on deck to witness the flight of "Shags," (*Phalacrocorax graculus*) on one of their fishing excursions to the sea; they appeared in such prodigious numbers, that the whole surface of the heavens was almost entirely obliterated from the sight; flying in irregularly formed streams from the main land, from the breadth of but a few feet to that of more than a mile the whole way, extending in a north and south direction along the coast as far as the eye had vision, strikingly bringing to my recollection the highly interesting descriptions of Wilson and Audubon, of the multitude of wild pigeons in some of our western States. They continued in an almost unceasing flight from the time they were first observed, until we were summoned to our mid-day meal, after which time I paid no further attention to their progress.

The favorite resting places of these birds, were the southern headland of the Island, which arose in a precipitious manner from the waters of the sea to an elevation of about ninety feet above its surface, and likewise on the summits of the numerous rocky islets which were every where scattered about in its vicinity. Upon examination, these resting places were found to be entirely covered by well characterized Guano, but so firmly compact, and the surface of the rock so completely besmeared with the substance at their uniting edges, that it was next to an impossibility to determine with any degree of accuracy, its relative thickness.

---

[*] This original certificate is not now probably in existence. Bedell was in the habit of carrying it much about with him, and frequently exhibiting it. It was probably worn out, or lost.

[†] These were shown with the sheep at the State Fair, and I should now forward them, accompanying this, had they not been accidentally mislaid.

[‡] I erroneously stated in the Jan. Cultivator that Fortune was bred by Mr. Jewett

These birds are esteemed as a palatable food, and for the period of three weeks that we remained at this Island, they were daily served at mess for both officers and crew of the ship. Upon examining the contents of the stomachs of several of these birds, we almost invariably found them distended with the bones and partially decomposed relics of a small species of Clupea (Herring,) which range along this coast in immense shoals from the cold waters in the regions about Cape Horn to the immediate vicinity of the tropical line. These cormorants dive and swim well, pursuing and securing their prey while in the water; ascending in the air to devour it, which they do with the greatest facility, tossing it up and catching it again as it descends, they swallow it almost instantaneously in a head foremost direction. From their prodigious numbers, their voracious appetite, and exceedingly rapid digestion, a very large amount of these fishes are daily consumed by them. After having thus gorged themselves with food, they retire to their usual resting places on some projecting headland or rocky islet in the sea, where they remain for hours together, with outspread wings, until digestion has completed its course, when they again proceed to sea to renew the process. It is at such times that the Guano is so copiously deposited.

This species of cormorant has a great geographical range, being found along both continents, from the frozen regions of the north, to the antartic sea, and of course are not uncommon along our whole Atlantic board, but in consequence of the frequent and copious rains which fall in these latitudes, the guano is unable to accumulate, being dissolved and washed away almost as rapidly as it can be produced.

Penguins likewise, have frequently been mentioned as contributing largely to the formation of guano, but from the peculiar habits of the various species of these birds it will be readily seen that but a comparatively small portion of this substance can justly be attributed to them. In the warm climate of the Peruvian coast where this manure chiefly abounds and where rains are seldom, if ever known to fall, these birds are relatively of rare occurrence, but gradually increase in number in proceding to the south, until the antartic seas are reached, in the cold waters of which, they in the greatest profusion are found, being not unfrequently observed, covering the surfaces of its numerous icebergs which are every where to be seen drifting along at a rapid rate by the power of the winds and the velocity of the currents.

These birds are also of an aquatic nature, spending the greater portion of their existence in the open sea, visiting the land only for the purposes of molting, hatching and rearing their young, which certainly does not exceed three months in the year. In the high latitudes where Penguins most abound, guano is exceedingly scarce.

From the facts here stated, and the circumstance that no piscivorous birds are so numerous in the regions where guano is found in the greatest profusion, as the *Phalacrocorax graculus*, I consider myself fully justified in the conclusion, that it is by these birds that this truly valuable manure is almost altogether produced.

DISEASE IN CATTLE.

Mr. Tucker—I would like to inquire of you or some of your correspondents respecting a disease by which I lost a cow last winter, and also of another by which I lost a heifer this summer.

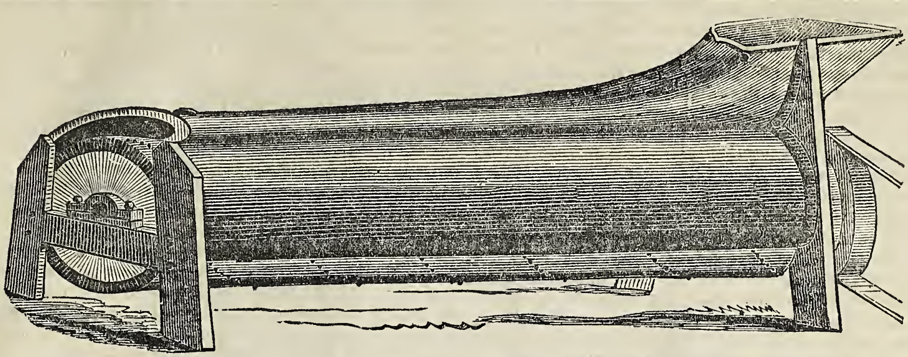
The cow at the time she was taken sick was nearly fat enough for the knife; she had been fed from the commencement of winter, (say almost the middle of Nov.) with barley meal, at the rate of about three quarts per day, the remainder of the time, (one month,) with plenty of hay, and water once a day as much as she would drink. She was kept in a close stable, (excepting when out to water,) and well bedded with clean dry straw. The first symptom of disease manifested, was about the middle of January. She first refused to eat her usual meal; her food was withdrawn, excepting hay, for one day; she was then fed lightly, and appeared to be fully recovered; in about twelve hours after, she was as usual turned out to water, when she refused to drink and appeared to be cold; trembled very much, manifested a desire to go into the stable, frothed a little, and discharged a good deal from the nose; her eyes, and the inside of her mouth were red. She was immediately housed, and having the appearance of suffering from a cold, she was kept warm, and treated as follows: first, about half a pound of Epsom salts was given, followed by a strong decoction of Cayenne pepper and ginger, well sweetened with molasses. This failing to open her bowels, about one quart of melted lard with one pint of molasses, were given; no effect; two quarts of soft soap were then given; the above were all given as drenches, as also one half pint of castor oil, all within two days; at the same time, the syrenge was freely used with warm water and melted lard, and also soap-suds, but all with very little effect. She passed but little dung, and that little of a natural appearance; passed water freely; the slabbering, the discharge at the nose, the redness of the eyes and mouth constantly increasing, and also a great difficulty of respiration, with an uncommonly offensive breath. She refused to eat anything during the whole time, excepting a little bran mash well salted, and drank but little; as no effect was produced, but little was done after the third day: at the end of the fourth day she died; when she was opened, her lights were of nearly as dark a color as her liver, and entirely filled with a bloody froth; the maw was quite hard, not having been passed by any of the cathartics administered.

The heifer which I lost, was taken sick about the 20th of July when she was in very good condition; her pasture was bottom land partly inclined to be boggy, with a stream of good water passing through. Her first symptom was an attempt (as I thought,) to pass fæces, attended with straining and great pain; about a quarter of a pound of Epsom salts was administered in gruel; no effect; in three hours, half a pound more; the next morning appeared rather better; the straining continued through the day, when half a pound more of salts was administered; no effect; the heifer appeared lively, continued to feed well and drank freely for four days, when she died. When she was opened, her maw was very hard, and to appearance had passed nothing for several days; the bladder contained no water, but was very much swollen and the inside was quite rotten, as also were the passages connected with it. Now I would like to know what would have been a proper course of treatment in these cases, so that I may be prepared for similar ones in future. Yours, &c. L. Hartman.

SORE TEATS.

Mr. Tucker—During the past summer, a friend of mine in this place, who by the way is a practical and observing farmer, received reports that his cow's teats were very sore, to which he applied lard, cream, and other softening applications, none of which afforded relief; on the contrary, the soreness increased. He then directed his laborers to mow all the bushes, weeds, and grass, in and about the fields and fences of his pasture grounds, that were high enough to reach the cow's teats, premising they might be scratched by thorns, or poisoned by noxious weeds. Still no success. The teats growing more inflamed, and becoming nearly covered with raw sores, he then went through his fields personally to see if the bushes and weeds were all cut, which he found done to his satisfaction. He then gave up the case as beyond his knowledge. Some of the cows he was compelled to desist milking. Subsequently, in walking through his fields during a warm afternoon, he observed his cows quietly standing in a pond, wisping their tails at the flies, with their teats reaching the water, upon which he discovered a large number of leeches, (Hirudo,) such as are found in most ponds of standing water. The mystery was at once solved, and the pond lowered by draining; since which, there have been no complaints of sore teats. S. Y.

Oyster Bay, Queens Co., October 12, 1844.



SMITH'S HORSE POWER CORN SHELLER AND SEPARATOR—(Fig. 101.)

This machine, patented by F. N. Smith, is recommended as possessing the following advantages:

"1. It is simple in construction and capable (with ordinary team for threshing) of shelling and separating effectually from one to three hundred bushels of ears per hour, depositing the cobs a reasonable distance from the shelled corn, which are perfectly clean from corn silks, husks, &c., and neither the corn or cobs are broken, so as to be injured by the operation. 2. It may be fed from the shovel or basket, or feed itself by drawing the corn from the crib, in either case operating equally well. 3. It is durable to almost any extent, as it improves by use. 4. It is safe in its operation against accidents of any kind whatsoever. 5. It may be readily attached to any horse or other power, taking the place of grain thresher, and is equally portable with the same. 6. It will shell large, small, and deformed ears with the same facility, also green or damp corn with the same perfection as when dry. 7. Corn shelled after this manner, is allowed by those having tried the experiment, to look better, and measure from 5 to 10 per cent more than horse treading or flailing, as the corn leaves the operation as soon as it leaves the cob, the cob remaining until clean." The above machines are kept constantly on hand and for sale at the foundry of Hanna & Peaslee, Kinderhook, Columbia county, N. Y. Price $40—warranted.

INQUIRIES ABOUT CHARCOAL, &c.

To Za. Drummond, Esq. of Amherst Co., Va.:

My Dear Sir—As I find your name in the pages of the Cultivator, I take the liberty of addressing you through this medium. And I feel gratified that the friends of agriculture, notwithstanding their living thousands of miles apart, can thus interchange sentiments, and be benefited by each other's experience, although not personally acquainted. Thanks to the Cultivator, I have been benefited by the communications of yourself, neighbor Robinson, and other valued correspondents of this useful agricultural journal. While I am combatting with the various incidents of a pioneer life, enjoying its sweets as well as occasionally tasting its bitter, you, hundreds of miles distant, are setting under your own vine and fig tree in the sunny fields of the south.

What I desire, is, to be further informed of the fertilizing effects of charcoal as a manure—its best method of application, and to what soil it is best adapted; whether clayey or sandy. I am particularly desirous of knowing what was the result of the experiment you made (as mentioned on the 48th page of the Cultivator, vol. 10,) of scattering it, after being pounded, over the litter of your cattle yard. Does it answer your expectations as a manure? Will it pay the expense of burning, if the wood costs nothing more than the cutting?

My attention has been more particularly called to your communications, by reading an article in the last number of the Cultivator, from A. J. P. of Newburgh, N. Y., who says it is "in itself, almost or quite valueless;" and "it is at any rate doubtful if it is ever converted into earth, or of itself, furnishes any food for plants." He further says that "when used in the compost heap, or when saturated with urine, all the substances it comes in contact with, are brought under its influence, and when applied to the soil, are gradually separated by the rains which fall upon them, and undergo in the earth the decay which fits them to become food for plants. Used in this way, charcoal will undoubtedly be found very useful, much more than when applied alone." In your letter of Jan. 15th, 1843, as referred to above, you asked the opinion of the editors on this subject. As we may benefit by their opinion, as well as by the theory of A. J. P., the readers of the Cultivator, (one in particular,) would like to avail themselves of your *experience* on this subject.

On the 80th page of the same volume in the following March, you stated that you should "try it on corn, wheat, cabbage, meadow and grazing lands, and report the result." We hope, friend Drummond, that you will give us a report of your experiments, whether they are favorable, or the contrary. And whether the application of charcoal alone or in the compost heap, is the most advantageous.

I suppose you and the readers of the Cultivator, think it strange that a western man should think of manuring his land—that the fertile fields of the west need no manure, and that there is no possibility of their repaying the least outlay for manure, or anything farther than getting in the seed, and inclosing the whole farm, however large, with the fewest number of miles fencing possible. But we hope to see this idea scouted some day or other. Should this idea continue to prevail, and our farmers act accordingly, we must soon abandon the raising of wheat and see our eastern neighbors, on their old fields, beating us in bountiful crops. Do not call me an ill omened bird; but it is true. Where nature yields so abundantly, if we do not return something to recruit her exhausting energies, we shall soon be doomed to the sad disappointment of seeing a yearly diminution of her products, though small at first, but a diminution as sure and steady as the sands of the hour glass. Our farmers act like the "horse leech's two daughters, crying give, give;" but they make no return. There is as much reason in working our horses and oxen without feeding, as thus tasking our farms without giving them their requisite food; and the man who should refuse to feed his working team because it was already fat and sleek, would act as rational as the farmer who should continue to work the domain God has given him, without feeding it with those fertilizing agents and manures which are so necessary for maintaining it in a fat and luxuriant condition. These things will not always last. The improved system of husbandry, with rotation of crops, and a liberal use of fertilizing agents, will be adopted here. From fifteen to thirty bushels of wheat, to our eastern farmers, looks like a liberal yield. These are our common crops. But forty and fifty bushels to the acre, is as common in England, as thirty to thirty-five is with us. And even sixty bushels of wheat is sometimes produced from a single acre of ground. Now the question is, ought western farmers to sit down and content themselves with from fifteen to thirty bushels of wheat from an acre of ground? Assuredly not. But some say when wheat is but fifty cents per bushel, it will not pay the outlay of a thorough system of manuring. Our crops, I do not mean all of them, but the average, might be doubled by thorough tillage, a judicious application of manures and fertilizing agents. If fifteen bushels can be added to our crops, and I know of no reason why it cannot, I do know that the last fifteen can be produced with as little expense as the first. For our swamps are full of muck, our forests full of leaves, and many of our barn-yards, (I shame to say it,) unless we move our barns and yards, are full from year to year; and our straw, huge piles, sometimes covering acres, is left to lie and bleach and blow away by the winds of Heaven, if it does not suffer a more speedy destruction by fire. We have also forests that must be felled before we can cultivate the soil; these furnish ashes and coal to our heart's content. We have materials enough for manure; all we want is a little extra labor, and time to make a proper use of them, and our soil, as well as producing as good soldiers and as eminent statesmen, would produce as good crops as the broad domains of our transatlantic brethren.

Yours, my dear Sir, with much respect,

Levi H. Hare.

Centreville, St. Joseph Co., Mich., Oct. 7, 1844.

CULTURE OF FRUIT TREES, &c.

Luther Tucker, Esq.—In your very interesting paper, The Cultivator, Jan. 1844, page 37, is the commencement of some very judicious remarks, by J. J. Thomas, on the culture of fruit trees. When farmers transplant fruit trees, they have a desire to seem them "bring forth much fruit." I will say to them, follow the directions of Mr. Thomas, and with a little care of the trees after they are set out, they will be sure to have an ample supply of fruit. I hear one say, "I have so much corn to plant and other work to do, I cannot spare time, neither do I think it will make a very great difference. My grandfather and father, never took so much pains, and their trees bear well." I reply—"If you follow the directions of Mr. Thomas, you will have much better fruit than your father ever had, and double the quantity. If you wish to receive the greatest possible benefit from your labor, plant less corn, and take more time to set out your trees."

In the N. E. Farmer of May 11, 1842, page 355, there is a letter I wrote, which differs a trifle from the following statement.

Our island is surrounded by the ocean; it is 21 miles long and 5 wide. But little fruit has ever been raised on it, and that little, very inferior. It has often been said, "it is impossible to raise good fruit on this island." Eleven years ago, I hired a man to set out 17 apple trees. He dug very small holes, and set them out in a very short time. The spring following, I set out one apple tree. I dug the hole 10 feet in diameter and 3 feet deep. The subsoil (yellow earth,) was carried away, and the hole filled with sods inverted, and rich earth. *That tree has borne more apples than all the others.* This spring it measured 34¾ inches in circumference near the ground. The largest of the others, is 23¼ inches. Had I given ten dollars a piece to have had them set out as they should have been, instead of having them set out as they were, I believe it would have been money well laid out.

One of my trees has borne no fruit. This spring, I examined it, and instead of having the roots to extend horizontally, or nearly so, they turned directly down. I have thought of transplanting it this fall. Will that be best? If not, what shall I do with it?

In whip grafting, I cannot see the use of tongueing. I never practice it, and seldom lose one. It appears to me to be labor lost. I never have more than two buds on the scion. I cover the ends with composition. If both buds sprout, I cut off the weakest. If the scion should need support, I tie a small stick to the stock, and let it extend high enough to tie the scion to. In budding, I support the scion the same way. In the spring, if the bud has taken, I cut off the stock as smooth as possible, the healing process commences immediately, and the wound soon closes.

Peach trees do not thrive with us. I have whitewashed them and washed them with soft soap. Around their trunks, I have put ashes, lime, barn manure, chip dirt, charcoal, &c. But they seldom live more than three or four years. Their leaves expand in the spring, and for a few weeks the trees look well, but soon the leaves turn red, become very thick, double up and die. Many of the limbs, and often the whole tree dies. I have carefully examined the leaves, and I have pulled up many of the trees, and examined the roots, to see if the worm had attacked them, but found nothing. I therefore think it must be the atmosphere that effects them.

The Canker Worm and Borer have not troubled me, but we have a plenty of worms that do their work quite as well.

I know of nothing that is so poisonous to insects as diluted oil soap. A few days ago I had a bucket of diluted soft soap, into which a grasshopper flew, he swam about for a long time before he died. I had another bucket of diluted oil soap, a grasshopper hopped into it, and very soon (almost instantaneously,) expired. My gooseberry bushes have been attacked by small green worms. I sprinkled some diluted oil soap on the bushes, which immediately checked their ravages. When Canker Worms are discovered on apple trees, would it not be well, (if it has not been tried,) with a good syrenge, to sprinkle your trees with diluted oil soap?

Will whip grafting do for the grape vine? If so, at what time must it be done?

An answer to the above questions, will oblige some of your constant readers. Yours, respectfully,

Edgartown, Oct. 16, 1844. Allen Coffin.

LABELS FOR FRUIT TREES.

Editor of the Cultivator—I noticed in a recent number of your paper, a mode for preparing labels for fruit trees, &c. from wood; I send you another, and think far better label. Take slips of zinc, of size suitable, say 3 inches long, by half an inch in width, (any tin plate worker will cut them out of the size desired) drill or punch a hole near the end of each slip; then write upon them the name of the fruit, &c., or its number in your fruit list, with the following composition:

COMPOSITION FOR WRITING ON ZINC LABELS:

Take verdigris in powder, one part.
sal ammoniac, one part.
lamp black, half a part.
water, ten parts.

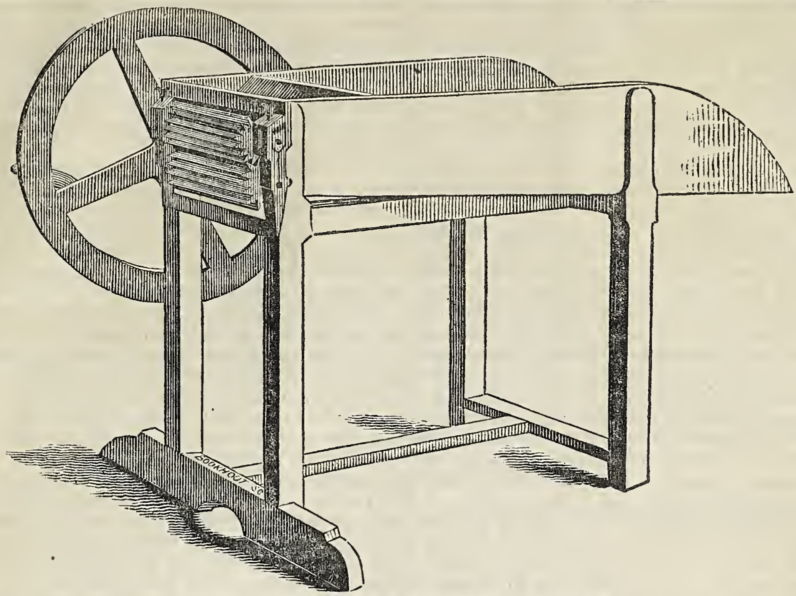
Mix them in a glass or wedgewood mortar, at first adding as much water as will mix the ingredients well together, then add the remainder of the water; when placed in a vessel, let it be well shaken up from time to time, and in a few days it will be ready for use. Shake well before using it. The mixture writes about as easily as common writing ink, and makes a permanent black mark upon the zinc. I have used this composition for labels on my trees for a number of years past, and I do not find that the exposure to the weather has obliterated a single mark; the names are as legible now as on the day they were written; painted cedar labels marked with a black lead pencil, put on at the same time with the zinc labels, have ceased to be of any use, the wood being mostly worn out, and the writing illegible.

The foregoing recipe was furnished me by a gentleman some years since; he said he believed it had been published in some agricultural paper. The labels are to be attached to a limb of the tree by copper wire.

My plan is to write the name of the fruit, &c. on one side of the label, and on the opposite side I place the number which I have affixed to that variety in my fruit book; thus on one side, "*Broca's Bergamot*," on the opposite side of the label "*No.* 100," No. 100 being Broca's Bergamot, in my list. Yours, &c. W. N. Green.

Worcester, Mass., Nov. 8, 1844.

Native Grape.—A correspondent of the Boston Cultivator speaks in high terms of a seedling grape, purchased of G. B. Emerson, Esq. of Boston. The size of the berry is said to be about that of an ounce bullet, or that of the Sweetwater grape. The flavor is rich, much more so than the Isabella. It has no pulp or foxy taste. It is not likely to be injured by frost, as it puts out about ten days later than the Isabella, and ripens a month earlier. It was in eating the latter part of August. The vine is perfectly hardy.


BOOKHOUT SC.

SANFORD'S STRAW CUTTER—(Fig. 102.)

Luther Tucker, Esq.—The block accompanying this, represents a machine for cutting hay, straw and stalks, patented by Mr. Sanford of Connecticut. Judging from its simplicity, and the ready sale with which the machine has met, it is admirably calculated to meet the wants of farmers. It consists, as will be seen by reference to the engraving, of two cylinders, armed with knives, revolving together in a cast iron frame, by means of cogs. This iron frame is firmly bolted to the wooden frame and feeding box by means of two screw bolts. It is propelled by a handle fastened to the driving wheel. For durability and ease of performance, it is said to equal any other machine. Mr. Sanford sells them, made of good castings and wrought knives, for $15. They can be examined at the Agricultural Ware House of Henry Warren, River-street, Troy. A Subscriber.

THE LATE STATE FAIR.

A friend, who thinks that we did not do justice, in our account of the State Fair at Poughkeepsie, to the Horticultural Exhibition, requests the insertion of the following more detailed account of **Floral Hall** and its contents:

One of the principal attractions at the late State Fair at Poughkeepsie, was the Floral Hall, under the supervision of **Alex. Walsh**, Esq. of Lansingburgh. The following will give some idea of the arrangement.

Festoons of evergreens were hung in various directions and in such good taste, that the roughness of the temporary building was lost sight of, and you looked, as you entered, into a bower where the fresh green relieved the brightness of the fruits and flowers, and your senses were regaled by their united fragrance. Along the walls were arranged paintings, drawings and engravings, of animals, fruit and flowers.

Its appropriate sign, over the entrance, made from the leaves of the evergreen, and sprinkled with flowers, was an index not only of the exhibition within the building, but of the good taste in which the arrangements were made. Art giving her hand to Nature, and the products of both so commingled as to present a beautiful whole, while each was represented and neither lost, though neither was made pre-eminent. The place did not look like a well filled barn, or even a fruit shop, as such places sometimes do on such occasions; but attention was given to arrangement and effect, and to the thousands who went through the building, a scene was presented which delighted every one, in a way that mere heaps of fruits and bouquets of flowers alone could not do. And yet perhaps a finer display of fruits, flowers and vegetables has not been witnessed in this country—not even in the Boston Horticultural Exhibitions, so deservedly celebrated for their excellence. The peaches were of the largest size, most lusciously ripe and in great variety; plums and nectarines of unblemished skins; pears the most delicate and the most hardy looking, of the deepest green and the most golden hues, of every possible variety—the Beurrées, the Bergamots, the Frederick of Wirtemburg, the St. Michael, the Bartlett, the Seckle, and many others, all bearing unquestionable marks, without tasting, that they possessed in a high degree the peculiar excellences for which each is remarkable. Throughout the whole collection nothing dazzling or glowing. That happy combination was produced—the triumph of Art—which creates at once the sensation of the beautiful, and soothes rather than excites by the exquisite taste which has placed every thing where neither thought or instinct detects the falseness of its position, and which, the longer it is beheld, the greater is the satisfaction, for strict and minute examination, discovering the shades of arrangement and coloring which give so beautiful an effect to the whole.

One of the most prominent and interesting objects in this assemblage of the products of the American soil and brain, was a Temple dedicated to Agriculture and the Arts, under Mr. **Walsh's** special direction, to whom the society is indebted for this unique ornament, consisting of three arches dedicated to three of the most productive classes of our wide spread population.

The central arch was dedicated to Agriculture, the one on the right to Horticulture, and the one on the left to Manufactures. They are severally denominated coats of arms, the new and better heraldry—*better*, well may we say, since their end and object is the happiness of man; while the old and blood-thirsty heraldry clearly prefigures its origin and aim by the devices it has chosen. We trust, however, that the day is not far distant when the heraldric device of the brawny arm and hammer will be greeted with becoming respect, while that of the bloody hand and sword will meet with merited contempt.

The shortness of our stay and the crowd of visiters pressing around this Lion of the Fair, prevented the possibility of our giving more than a faint impression of the effects it left upon our mind. It afforded us the greatest pleasure however to observe in the central arch a beautiful engraving of the late Judge Buel, one of the early advocates of agricultural improvements, and an esteemed friend of the originator of this structure. Near this was to be seen specimens of wool raised by the late H. D

Grove, Esq., the introducer of Electoral Saxon Sheep into our country. Stretched across the Agricultural arch are beautiful festoons of wheat, rye, broom corn, oats, &c. &c., partially shading beautifully executed paintings of the improved breeds of cattle, while the following motto suspended from the festoons, showed what pleasing results may be expected from attention to improving our Agriculture:

"Those nations which have been most distinguished for their love of husbandry, whether of the garden or the farm, have been the most prosperous."

There were also specimens of rice, hemp, madder, cotton, &c.; products of the east, west, north and south. In the same arch are to be seen drawings of the plow used in Egypt, a clumsy wooden instrument, drawn by an ass and a mule, in juxtaposition with the plow of our country, combining the latest improvements and drawn by oxen, clearly showing the truth of the motto:

"The improved plow and its accompaniments—the only true sources of wealth and evidences of civilization."

The *Cornucopia* was not forgotten, being placed on the column between the arches dedicated to Agriculture and Horticulture; on the side next the Agricultural arch, were ears of corn, highly ornamented with vegetables; and on the opposite side, various fruits and flowers, near a diminutive but highly decorated plow, teeming with the rich products of the earth, as a token of the bountiful harvest vouchsafed to us by the Giver of all good. It seemed to say to the beholder, "Be grateful for Divine goodness," and for all the calm delights of rural life. Near by was the motto:—"The Farmer *who converts "the sword into a plowshare,"* believes with John Quincy Adams, that "Universal and permanent Peace belongs to the laws of Nature and of Nature's God."

In a conspicuous place of this same central arch was displayed to view the motto:—"We love nature, fields, flocks, the grain gathering, the hay making, the flowers, and all that blooms and grows."

This was surmounted by a beautiful engraving, in its figure and scenery most appropriately accordant with the sentiments of the motto, and as it were embodying them to the sight, and also surrounded by the richest and rarest products of our soil.

On the base of this arch was a collection of books appropriate to the farmer and gardener. Among these books were some recent volumes of the Cultivator and other works, the lart works of the gifted mind of Willis Gaylord, Esq., whose writings have conferred lasting benefits upon the farmer. The motto is in keeping:—

"The rich fruits of the husbandman's toil are to become yet richer and more abundant!

"The New York State Agricultural Society are preparing for this result by their recent efforts to introduce agricultural and horticultural works into the common schools and district libraries throughout the Union."

We now pass to the Horticultural arch—a most fitting ornament to grace Flora's Hall. Tastefully stretched across this portion of the temple were festoons of silk cocoons, flowers, fruits, &c. Its right column was wreathed and encased with gorgeous displays of Dahlias and the body of the arch decked with ornamental and classic figures, vases, &c., which could not be looked upon without enkindling the desire of adding to our literary attainments a knowledge of botany, a study hitherto too much neglected—the whole forming an array that could not fail to strike every beholder with admiration of the useful and beautiful. In the midst of the flowers was the following charming and appropriate motto:—

"Not useless are ye, flowers, tho' made for pleasure
Blooming o'er fields and wood by day and night,
From every source your presence bids me treasure
Harmless delight.'

surrounded by an engraving representing a beautiful female, herself adorned as to her head and form with clusters and wreaths of native and exotic flowers.

On the left of the column was appropriately placed the motto:—

"When the inspired writer sets forth the ground upon which the title of King Solomon to pre-eminent wisdom was founded, he placed the knowledge of plants foremost and most conspicuous among natural objects."

On the other side of the Agricultural arch, as has already been mentioned, stood the structure in honor of Manufactures, entwining the products of human art with those of nature—a conception alike happy and ingenious. The arch over the manufactures was neatly plated or cased with variegated beautiful specimens of American prints, silks, &c. Many of the silks were very attractive —some of them spun on the common wheel and wove on the old hand loom.

While looking upon the substantial cottons and fabrics of wool, the sources of comfort to the laboring man, and the various beautiful silk articles before us, we were led to anticipate that our silk *youth* will ere long attain to *giant* manhood. In the midst of the silks was the motto:

"Silk, soon to become an important branch of American industry and national wealth."

The former importers of the coarse cottons of India, the baftas, gurraws, &c., would scarcely have credited the tale of the astonishing change in the quality and price of the goods destined to take the place of the coarse article, and that American cotton would be valued and sought for, even in India and other parts of the eastern continent—a change now witnessed by us, and so speedily brought about by the magic power of machinery and the ingenuity and perseverance of American workmen. The time was when our Dutch ancestors thought that brick must be imported from Germany for building houses and paving side walks, our clay being, as they thought, an inferior article; but "truth is the daughter of time" that dissipates delusions. It is found that our clay will make good brick, and that our workmen with them can form magnificent structures; and so it is found that American cottons are quite equal, if not superior, to foreign fabrics in quality, while they are furnished at so moderate prices that the laborer who now earns his six shillings per diem can dress with greater neatness and comfort than many who in former days were reputed wealthy.

The great variety and beauty of the American prints here exhibited could not fail to impress the beholder most favorably in regard to American skill, and the former importers just referred to, to whom the story of our cotton goods seemed as a dream, must, on looking at these prints, be almost ready to think themselves transported to some fairy land. The beautiful array of surgical instruments, penknives, &c. reminded us that we have now a Sheffield of our own, and need not run across the ocean for articles of hardware.

In the judicious arrangement of his arches Mr. W. must have had fresh in mind the well known sentiment of Jefferson, who inculcated the propriety of placing the manufacturer by the side of the agriculturist.

Leaving a description of the *tout ensemble* to those whose longer stay gives them ampler means of doing it justice, we conclude our hasty notice of this portion of it by giving the appropriate motto:

"Few things are more cheering to the real friends of agriculture than the reports which are thronging in upon us from the different parts of our wide country—the success which has attended the numerous Agricultural Fairs, the enthusiasm which they exhibit in the great cause of Agriculture and domestic industry, must be considered as among the most favorable indications that the cause is progressive, and the course of the friends of improvement still onward. The county societies generally, and in particular the State Agricultural Society, have made evident advances in the public favor, and consequently in their wide spread usefulness."

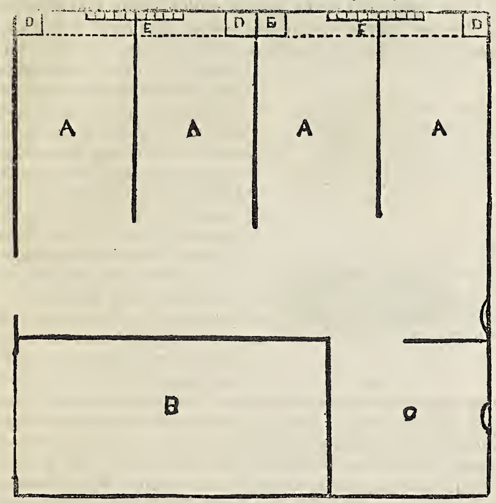
But without extending further this hasty notice of the Agricultural Temple and the delightful scenes of OUR Agricultural festival we close, availing ourselves of certain lines of Dean Swift altered to suit our purpose:

The Poughkeepsie Fair
Will ne'er be forgot,
By those who were there,
Or those who were not.

Lusus Naturæ.—There was born on Wednesday last, in the cow-yard of his Grace the Duke of Cleveland, a calf with two distinct heads and necks, only two shoulders, and two hind legs, but two distinct tails. It died immediately after being calved, and on opening it, it was found to contain one pair of lungs, one heart, one liver, and the intestines of one beast only.

PLANS FOR HORSE BARNS.

Mr. Tucker—One of your correspondents wishes the plan of a *horse barn*—stable, I suppose, with carriage house, &c. He calls for a cheap one. Opinions on economy are so various, I scarcely know how to suit him. Had he said log, frame, or brick, we might have come nearer pleasing him. I have supposed it frame, to strike a medium, and have supplied two plans, a square and a long building, to choose from. The square one, 24 by 24 feet, main building; and have added a saddle and harness house; knowing it to be of great importance. It should be ceiled inside, and have a glass window, if it is only four panes, and door, which opens out of the stable, always kept shut. It may be further improved by making a closet inside to lock up fine bridles, side saddles, &c., that are not required for every day use.



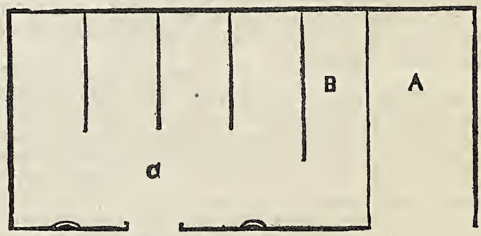
Horse Barn, 24 by 24 feet.

Stable, 16 by 24 feet—A. Stalls—E. Racks—D. Boxes—B. Carriage house, 8 by 16—C. Saddle room, 8 by 8.

The building is supposed to be 24 feet inside; the stall posts 3 by 6, if it is intended to nail the plank on; the plank at least $1\frac{1}{4}$ inch thick, with upright pieces across the ends, nailed with 20 penny nails; the plank 9 feet feet long, (if it is intended to tie the horses) and 6 feet 6 inches high at the horse's heads, and 5 feet 6 at the hind posts. If it is intended to gutter the posts and drop the plank in, they must be 5 inches square; the last is the best, if well done. If a common manger is wanted, it should be made out of plank 14 inches wide, and $1\frac{1}{2}$ thick, and should be at least 4 inches wider at the top than bottom when finished. If that proves any too large when in use, I will pay for the lumber, if the gentleman will call on me. The upper edge of the manger should be 3 feet 6 inches high, that the horse may eat with ease.

The rack should be placed 2 feet above the manger, and be strongly secured; the staves put in with an inch and a quarter or an inch and a half auger, and be $3\frac{1}{2}$ inches in the clear between each. There is another plan, however, which I like better—that is to make a long large box in place of a manger, say 2 feet across the top, and near 3 deep, to catch the hay or fodder that falls from the racks; a small box made for the corn inside the large one, and so arranged that hay will not fall in the grain boxes. No. 1 and 3 on the left of the stalls, and Nos. 2 and 4 on the right sides. Two short racks to be made about 7 feet long, one to be divided between stalls Nos. 1 and 2, and the other between Nos. 3 and 4, giving to each stall about $3\frac{1}{2}$ feet of rack. The box underneath will save your hay from waste, and your corn boxes are always free from trash. I prefer a dirt floor (every one can suit themselves,) 9 or 10 feet between stable and loft floors, a good joist over each stall, and the stall posts morticed into the joists at top; joists 6 feet apart from center to center is quite sufficient; if the loft is laid with thick plank, say $1\frac{1}{4}$ inch, your stalls will be about 5 feet 6 inches in the clear, a large horse can lay down in them comfortably. The door of a stable should always be strong, and open outside; the smallest size for a door should be 4 feet wide and 7 feet high, and with little or no sill to step over. If a dirt floor is preferred, it should be 9 inches higher inside than the ground outside, and always kept clean and level. If the second story is 3 feet above the joists, there will be ample room for hay, &c. under so large a roof. I prefer all doors in the end of the stable, to avoid eave dripping in going in and out. A simple platform over the door is perhaps best to unload on, and to ascend to the loft by. A window or door should be placed at the opposite end to the entrance for ventilation and throwing out manure, and two narrow cracks may be left over the manger, to be closed in winter. A row of strong wooden pins 18 inches long, in the wall behind the horses, to hang harness, &c. on; harness should not be hung to the stall posts if it can be avoided. I have known frequent instances of horses getting their hind legs entangled and remaining so all night.

The same remarks will apply to finishing inside of the long plan, except that of the window. The windows are indicated by a double mark; they should never be made so large that a horse if alarmed, would attempt to jump through.



Horse Barn, 16 by 25 feet.

C, Stable, 16 by 24—B. Saddle room, 5 by 16—A. Carriage house, 9 by 16.

I wish Mr. Mott would make some alteration in his Agricultural furnaces. They take too long to boil; I take out the boiler and place it between two logs and boil it in one-third of the time it can be done in the furnace The stove should be as large again. Time is the most precious with us—wood no object. R. W.

Greenville C. H., S. C., 1844.

HOUSEHOLD ECONOMY.

Tripe.—Take the tripe as soon as practicable after it comes from the animal, rinse it well in cold water, and immediately sprinkle a thick coating of air-slacked lime over the inside—roll it up, and let it lie till the next day. Then cut it in pieces eight or ten inches square, scrape it and put it in soak in salt and water, where it should remain seven or eight days, or till the strong smell is entirely gone, changing the salt and water every day. Then boil it tender. It may be soused like pig's feet, or it may be broiled, fried with sausages, or dipped in butter and fried alone.

Souse.—Take pig's feet, the head, &c., and after being well cleansed, boil them in water with a little salt, till the meat begins to drop off. Then slip out the largest bones, and put the meat in a stone jar, or well-seasoned wood firkin. Make a liquor sufficient to cover them, as follows: Take one quart of the liquor they were boiled in, two quarts of vinegar, spiced with cloves, allspice, pepper, and cinnamon. While the meat is still warm, pour the liquor, boiling hot, upon it. In a few days it is fit for use, and may be either rolled in flour and fried in lard or sausage-fat, or warmed in a little of the liquor, or eaten cold.

The feet and shanks of *cattle*, cleansed in the same manner as pigs feet, are excellent. When sufficiently boiled, all the bones should be taken out, and the meat immediately chopped fine, and seasoned with salt, pepper, allspice, summer savory, and sage. When wanted for use, they may be warmed over in a little butter, and are nice, delicate eating—scarcely inferior to oysters, which they somewhat resemble. They make equally as good souse as pig's feet. The jelly which is left after they are boiled, makes excellent *blanc mange*. All these articles are frequently thrown away in families. With a little labor, they constitute the most favorite dishes—fit for a king, or *even* a farmer. A HOUSE KEEPER.

HUSSEY'S REAPING MACHINE.

TO THE EDITOR OF THE CULTIVATOR—Several notices of my Reaping Machine have already appeared in the Cultivator, and I would not now intrude on your valuable pages, did I not believe that a large number of your readers are much interested on the subject of cutting wheat by machinery.

It is now ten years since my invention of the Reaper. I have been constantly engaged since that time in its improvement. Although the grand principle has never been departed from, it has undergone several changes in its general construction, with a view to convenience and durability. It cannot appear strange if some of these changes may have been for the worse, and thereby endangered its good name. With this hazzard in full view, I have followed every idea which promised any improvement; the result has been the production of an implement as near perfection, I apprehend, as any thing of the kind can well be. The improved Machine has been in use three years, with increasing reputation.

The following letter is from Mr. Washington of Jefferson county, Virginia, who has cut three harvests with one of my Machines:

Bell Air, July 8, 1844.

Mr. Obed Hussey—Our harvest is over, and has afforded another opportunity of testing the Reapers of your construction. Unlike most patent farming implements, they manifest their utility more evidently with each successive trial. Owing to rust, the straw this year was spongy and difficult to cut with any tool; it was also much fallen. Those farmers who witnessed the operation of my machine admitted that cradles could not have done the work so effectually. L. W. WASHINGTON.

Cautious farmers at the present day place little confidence in certificates. I will only add the following extract of a letter from Mr. Watkins of Va.

Chesterfield co., Va., July, 1844.

Mr. Obed Hussey—Having never seen you since receiving the wheat cutting machine, I with the greatest pleasure make known to you the result of its performance, in cutting my wheat. It surpassed my expectation. In cutting wheat or oats, no reaper can surpass it as to quantity, neatness in cutting, and the laying of the grain to the greatest nicety, and to advantage for the binders. The having to pick it up as fast as it is cut, is in my opinion one great recommendation, because every operation is immediately under the manager's eye, consequently much more work will be done, and at night when the cutting is done, the picking is of course. Numbers have been to see its performance, and all left with delight. One old gentleman, a James river farmer, remarked, had he such a farm as mine he would not be without your reaper for five hundred dollars. JOHN WATKINS, *of Ampthill.*

Last summer I visited the Mississippi Valley to introduce the Reaper there in places where it had not been known. Four machines were sent on before me to places distant from each other. Every machine without exception gave the highest satisfaction. One was used in Kentucky for cutting hemp as well as wheat. Although the hemp was cut and laid completely, yet a great improvement is in contemplation for expediting the work, and saving the labor of hands. I refer for information to James Anderson & Co. of Louisville, Ky. Another machine was sent to Lafayette, Indiana. For an account of its performance I refer to Henry W. Ellsworth, Esq., of that place. Another machine went to Pekin, Illinois, where its performance was equally satisfactory. I refer to John Bennet, John Carmichael, and Matthew Brewer of Pekin. Another machine was sent to Mount Morris, near Rock River, Illinois. For a disinterested account of its performance I refer to Sam'l L. Hitt, of Mount Morris, and to Emmert, Halderman & Co. of Savannah, Ill.

My large machine requires four horses, and is warranted to cut from 15 to 20 acres per day—price 170 dollars. My light two horse machine is warranted to cut from 12 to 15 acres per day—price $100. Either of the machines is capable of cutting much more by a change of horses, and driving on a trot a portion of the time. Machines of medium size will be furnished at $140. The small machine is well adapted to ground cultivated in corn lands such as is usual on the eastern shore of Maryland and the counties of Va. bordering on the Chesapeake Bay.

No farther improvement is contemplated which can make the Reaper materially better than it now is. Farmers who are not acquainted with it may rest assured it is no humbug. To the references already given I will add the names of the Hon. Wm. H. Roane of Richmond, Va., the Hon. H. L. Ellsworth, Commissioner of Patents who witnessed its operation last summer in Indiana.

Baltimore, Md., Nov. 18, 1844. OBED HUSSEY.

TREES GNAWED BY MICE.

I am reminded by an article which lately met my eyes in the last number of the Cultivator, that now is the season for guarding against the attacks of mice on young fruit trees. I have accordingly just had my trees embanked slightly by inverting the sod in a circle about them by the spade. If young trees stand in grass ground, as is sometimes unavoidable but not desirable, they are in the greatest danger from these attacks. But by turning up a circular portion of the ground around them, as represented in the annexed figure, (fig. 1,) and raising it at the same time a few inches towards the tree above the common surface, the danger is greatly lessened if not wholly removed. The grass about the trunk no longer furnishes a hiding place for the mice; and the earth, by being raised, prevents the snow collecting at much depth about it, being blown away by the wind. By elevating a circular bank of earth ten inches or a foot around each tree, all danger is wholly removed.

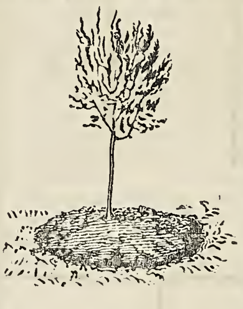


Fig. 1.

Another, and the chief reason for thus inverting the sod, is to promote the growth of the tree, as a few spadings during the course of the season will in many cases triple the growth of a young tree in grass ground; indeed, we may about as well throw away our trees, as to plant them in grass, without keeping the soil for some feet about them, well cultivated for several years.

When trees become actually girdled by mice, I save them without difficulty, if they are not peach or nectarine, by a mode sometimes described in the papers, represented by the annexed cut, (fig. 2,) and which consists merely in connecting the bark above to the bark below the girdle, by an inserted piece. If the tree is small, portions of the wood and bark, at the upper and lower extremeties of the girdled part, are cut away with a knife, so as to leave smooth horizontal faces, as shown at *a. a.* If the tree is large, these are best cut in with a mallet and chisel. The limb of a tree is then made just long enough to fit in and connect these two cut faces together, taking care that the line of separation between the bark and wood of the tree and inserted piece, exactly coincide as in grafting. This inserted portion may be a small round piece with the bark on, or a larger piece, split, leaving the bark on the outer side. The whole may then be covered with grafting wax or other suitable composition, and, if low enough, embanked with earth. In small trees, a piece may be thus inserted on each side—in large ones, several should be employed

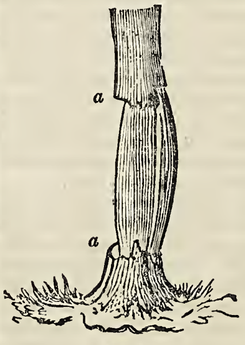


Fig. 2.

Trees several inches in diameter, may be saved by this means, if the work is carefully done; and the whole will grow over in a few years. J. J. T.

10th mo. 1844.

SALT IN CURING CLOVER.

Analysis of the experiments of S. W. Pomery, Esq., by F. Mortimer Butler.

These experiments, made in 1804, are recorded in Transactions of the Mass. Ag. Society, vol. I, p. 105.

Experiment "No. 8, July 13.—Cut 9 tons clover, *one third of tops turned brown,* [cut] by 2 o'clock, spread, turned, cocked by 6 o'clock.—14th. Cocks turned bottom upwards, began to cart at 10 o'clock, packed in a bay with *one peck of salt per ton, very little heat.* Result, color completely preserved."

No. 7, July 12.—[Is a similar experiment,] "one fourth of the tops turned brown."—13th. Taken in at 11 o'clock, "*half a bushel of salt, small degree of heat.* Result, very excellent hay."

No. 6, July 11.—"Weather intensely hot, and scorching sun; cut 4 tons clover by 1 o'clock; *tops begun to turn brown;* spread, turned, cocked by 5 o'clock.—12th. Cocks turned bottom up; carted before 4 o'clock, packed in a bay with *half a bushel of salt per ton.*—13th. Considerable heat, none after. Result, well cured."

From the remarks of Mr. Pomeroy, it is understood that July 11th, 12th and 13th, were good hay days. This might have been realized from the fact that the natural ripening of the grass was progressing rapidly, inasmuch as the tops on the 11th "began to turn brown," on the 12th were "one-fourth brown," and on the 13th were "one-third brown." In the same ratio, a few days more would have converted the grass into standing hay.

Please observe No. 8. In this experiment, after one-third of the tops had turned brown, there has been some wilting in the swath; some ripening, through exposure to the sun; and some sweating in the cock. Can it then be said, that the curing of the grass was effected by the one peck of salt per ton, or are we to be surprised at the very little heat. But little reflection is needed to settle these points. The grass had in reality become changed into hay before being carried in. But one thing, therefore, in the absence of salt, was needed for its preservation, viz. thorough drying. Our farmers are aware of the fact, that when the heating action is nearly over, that is when the sap is nearly ripe, hay may be carried in damp, and be preserved, provided that salt is used to take up the loose moisture. In this experiment, the cocks were turned bottom upwards, but not opened to become thoroughly dry. Salt then served to take up the loose moisture.

No. 6 was cut in a greener state, received similar treatment, and was carried in at 4 o'clock, consequently remained in cock five hours longer than No. 7; this extra time in sweating was not sufficient, at this stage of growth, to effect the ripening of the sap to the same degree as that occurring in the grass left standing that day; consequently, we notice "considerable heat." Our farmers say that it is best for hay to heat a little in the mow. In this experiment, the curing not being sufficiently completed in the field, was finished by sweating in the mow or bay. This sweating, however, was too great, and the hay would in all probability have been mow-burnt, had not salt been used to take up the loose moisture. Had the hay been less ripe, neither salt nor salt-petre would have saved it.

Please observe the progress of natural ripening from the 11th to the 13th of July (in No. 6, 7, 8,) as "begun," "one-fourth," and "one-third turned brown." Compare it with the artificial ripening effected in about one day's curing, as indicated by the degrees of heat, "considerable," "small degree," "very little heat." Do they not contrast well, even after allowing for the five hours extra sweating in No. 6, and setting aside the supposed agency of salt in the curing.

"No. 5, July 10. Four tons clover cut and managed as No. 4; [*clover in full bloom,* cut by 1 o'clock, spread, turned, cocked by 5 o'clock.] 1*1th, remained in cock.* 12th, cocks turned bottom upwards, carted middle of the day, and packed in a bay with *half a bushel of salt* per ton; small degree of heat. Result, well cured."

Between Nos. 6 and 7, there is a difference of one day's time in cutting, consequently one day's natural ripening. Only 5 hours extra time is allowed in curing that earliest cut. This I have stated to have been too small an allowance. Please observe that between Nos. 5 and 7 there is a difference of two days standing, and that in No. 5 there is two days curing, *one day being by sweating in cock.* Compare the degrees of heat and they will be found to correspond, viz: "small degree of heat." Had No. 5 been thrown open and thoroughly dried, and then packed away with one peck of salt per ton, we would in all probability, had the return, very little heat, color completely preserved. At all events, it is curing by wilting and sweating.

No. 3, is four tons clover, cut on the 9th July, "*remained in cock the 10th;*" carried in on the 11th; "half a bushel of salt." Result, well cured, of a good color. This is another specimen of wilting and sweating, and as such, speaks for itself. We will pass to other experiments, showing the matter more clearly.

"No. 4. July 10th.—Cut two tons clover *in full bloom,* by 1 o'clock; spread, turned, cocked by 5 o'clock. 11th, cocks turned upside down; carted in forenoon, very green, packed on a scaffold with *theee pecks of salt* per ton, *heat some days.* Result, '*black, some of it mouldy, smoked when removed,* but eaten freely by horses.'" That is to say, the horses ate a black carbonaceous mass, to obtain the salt contained in it. In this experiment we have green grass, it being only in full bloom; with one day's curing, and yet the salt could not save it. The green state of the grass called for longer time in sweating, as will be seen.

"No. 2, July 9th.—Clover *in full bloom,* second year's cutting, with a small portion of herds grass, very rank; mown between 7 and 1 o'clock, spread, turned and cocked up by 5 o'clock. 10th, cocks turned bottom upwards; afternoon, three tons carted to the barn, *found too green;* remained on carts till the 11th; spread very thick on an adjoining field, turned, exposed three hours; carried in without loss of head or leaves; *supposed half made;* packed in a bay with *half a bushel* of salt per ton; next day a little heat. Result, well cured, of a good color."

This experiment speaks for itself; wilting and sweating had been resorted to. The remark, "supposed half made," seems to rob it however, of its true merit. There can be green hay, as well as green grass. In the former, the word green applies to the color; in the latter, to the succulent state. Well cured hay, by the wilting and sweating process, carries a pea green color, and thus is liable to deceive our farmers, who are more accustomed to a greenish hazel or chocolate tint. Any one familiar with the wilting and sweating method, would say that in No. 2, is presented a fair though not perfect specimen of curing by that method. The grass having been dried and wilted on the 9th, retained in cock and in mass (as on the carts) on the 10th then thickly spread out for 3 hours on the 11th, with the weather intensely hot and a scorching sun on that day, would naturally look for but little after heat in the bay. The remark, "next day a little heat," is sufficient to show that it was cured before it went in. The good color must have led to the supposition that it was but half cured.

No. 1, July 7th. Is "three tons fine English hay, *supposed to require one good hay day to make it;* packed 4 feet thick on a scaffold, with one peck of salt per ton; no heat; very damp some days after. Result, came out bright, sweet, and very heavy; cattle fond of it. This needs no remark. [The hay weather previous to the 11th of July, was by no means good.]

Permit me to remark that the science of agriculture is deeply indebted to Mr. Pomery for the precise detail of these experiments; they are a good pattern for those seeking improvement in agriculture. Respectfully,

F. Mortimer Butler.

P. S. I make the following extract from the same work, page 106:

"My clover, which covered two acres, was beat down by a severe storm of wind and rain, preceding the 23d of June. The 25th, I gave directions to cut, and dry the water from it as soon as possible; to cart it into my barn the same day, if sufficiently dried, and to sprinkle from three pecks to one bushel of salt on what might be considered a ton, when cured, in three layers.

These directions were executed with care; the salt was coarse Liverpool. Four heavy loads were put into the barn before night; the remainder before the morning of the 26th. It was perfectly green, and in a perfect blow of flowers. It was packed on a scaffold 20 feet by 10. *I believe not a stalk or leaf was wilted.* The weather appeared unsettled, which induced me to have it housed as soon as it was dried.

The third and fourth days succeeding, every appearance was favorable to its preservation. It continued green, and the flowers as fresh as when first cut. From this period it changed color rapidly to black, with a considerable degree of heat and moisture, from a solution of the salt and the succulent state of the leaves and stalks. It wet the floor, and in many places dropped a salt colored liquor. It discharged very offensive effluvia for several days, after which the hay changed to a dirty white, and appeared rotten. The heat subsided, as is usual, after a completion of the putrid process. In the last described state it remained, and I presume is of no value except for manure.

A Friend to Experiment in Agriculture.

GRASSES FROM BERMUDA.

Editor of the Cultivator—I send you herewith some samples of grass forwarded by Gov. Reid from Bermuda, with a view to its comparison and identification with the so called "Bermuda grass" of the southern States, samples of which he supposes you have in your possession. The laudable zeal and enterprise which Col. Reid has shown in promoting the agricultural and other interests of the colony over which he presides, and his generous devotion to the cause of science, and the general interests of our race, entitle him to any information which it may be in your power to impart. You have annexed an extract from his letter to me, which accompanied the grasses. Very truly yours,

Wm. C. Redfield.

Gov. Reid says: "In the Cultivator I have more than once observed allusion made to Bermuda grass as a grass highly prized in the Southern States. As specimens have been sent from Louisiana to the Editor, I have thought that he or others might like to compare them with Bermuda specimens. I have therefore sent three specimens for him, and although we suppose that No. 1 is what is called Bermuda grass in Louisiana, we are not quite certain of it. If the editors wish to identify this grass with any one of our native grasses here, I shall with great pleasure assist them farther.

"I also enclose a fourth grass, which we call Fox-tail grass. I have watched it ever since I have been here, and think it a valuable grass. It had previously been neglected and almost unknown. The Timothy grass of the United States is said to have been brought from Carolina to England in 1780, by Timothy Hudson, and from him derived its name. But what I now send you is not Timothy. Yet it may really be what Timothy Hudson took to England; for it agrees better with the soil and climate of Bermuda than the imported Timothy grass."

Description accompanying the grasses.—"No. 1, called in Bermuda, *Pond grass*, from liking moist soil. This is supposed to be what is called Bermuda grass in the southern States of America. It is a very valuable grass."

"No. 2. This resembles the other in general form and habits, but looks to the eye much coarser, and seems to like the spray of the sea and swampy ground. It has been but little noticed in Bermuda, and is probably much inferior to No. 1."

"No. 3. This is called the *Crab grass* in Bermuda. It is prized by the inhabitants; and as it mats the ground, and subdues almost all the others, it has hitherto received the most attention; though No. 1 will probably be found to be the most valuable."

"No. 4. A specimen of the Fox-tail grass of Bermuda."

Remarks.—We are much obliged to Gov. Reid and Mr. Redfield, for the pains they have taken in forwarding the above described specimens of grasses. Nos. 1 and 2 evidently belong to the same genus as the "Bermuda grass" sent us from Mississippi by Mr. Affleck, and the first, which Mr. Redfield thinks is *Paspalum vaginatum*, bears a strong resemblance to it, though it is not identical. We have several species here of similar character, but they are all *annuals.* Loudon enumerates twenty-six species. No. 3, marked (we suppose by Mr. Redfield,) as *Rottbœllia dimidiata*, is somewhat different from the others, though still resembling them in several general characters, such as the division of the head, the manner of producing seed, and striking root. The specimen marked "Fox-tail," is apparently the same as the annual Fox-tail, *Alopecurus agrestis*, and is frequently troublesome by growing among corn and other cultivated crops on light warm soils, near barns, &c., and is often called "*barn-grass.*" It will be observed that it is quite different from Timothy, *Phleum pratense*, the latter being a perrennial grass of a different genus. Though none of the tribes of grasses to which the specimens sent belong, are considered of much value with us, yet the difference is so great in our location and climate from that of Bermuda or the West India Islands, that they may be there highly valuable.

We may be permitted to remark here, that the deep interest which we have repeatedly seen manifested by Gov. Reid, in the cause of agricultural improvement, cannot fail to be of essential benefit to the people of the Island under his government.—Eds.

APPLES FROM NOVA SCOTIA.

Mr. L. Tucker—I send accompanying this letter, a box containing the following varieties of Nova Scotia apples, and a newspaper containing a report of our County Cattle Show and Fair:

No. 1. Name unknown—Great bearer; good for eating

No. 2. Fall Pippin—Middling keeper, and good for cooking.

No. 3. Cat Head—Good for cooking.

No. 4. Unknown—Good apple.

No. 5. Calkins—Good for eating; may be used in December.

No. 6. Gravenstein—Lately introduced from England; one of the best apples raised; good bearer.

No. 7. Unknown—Supposed to be the U. S. Spitzenberg.

No. 8. Unknown—But good bearer.

No. 9. Nova Scotia Spitzenberg—Good keeper and shy bearer.

No. 10. Scotch (called the,)—Good keeper and bearer; of good flavor.

No. 11. Ribston Pippin—Good flavor; good bearer

No. 12. Long or Bishop Pippin—First rate apple.

No. 13. Sheep Nose—Good bearer; good eating in December.

No. 14—Fall Pippin (called)—Good for cooking; good bearer.

No. 15. Greening—Superb keeper; good flavor.

No. 16. Pomme de Gras—Fine flavor.

No. 17. Iron Apple—Good keeper.

No. 18. Native or Wine—Good bearer; good flavor in November and December.

No. 19. Unknown—Good flavor.

No. 20. Nonpariel—The best keeper we have. I have kept them for one year, and I have known them to be kept two, although the flavor "absquatulates."

I could not make a general selection as I intended, in consequence of the vessel sailing sooner than I expected, All that I send, with the exception of the *Wine Apple*, are varieties introduced from the United States and England, principally by the Hon. C. R. Prescott, who must be acknowledged the father of horticulture in Kings County. The Wine Apple, so named, was planted by the French before the colony became a British Province. There are many good varieties of native fruit, but the imported are so much better, that in planting an orchard or grafting, they are mostly selected. I hope you will not think I send them presuming them superior to productions of your fine country, but simply to show you that we can raise fruit and of a fine quality.

Yours, &c. CHARLES C. HAMILTON.
Cornwallis, Oct. 14, 1844.

The box of apples spoken of above, came safely to hand. Several of the specimens are quite large—all are of fine shape, and some of them of superior flavor. In point of quality, we think the *Gravenstein*, No. 6, stands at the head. The sample sent is the first of this noted variety we have seen. It is in all respects a very superior apple—excellent in flavor, and beautiful in appearance. The sample marked No. 10, *Scotch Apple*, is likewise a highly flavored and fine apple. The *Ribston Pippin*, No. 11, which in former years has been a favorite apple with us, is a good sample, and fully sustains the character of the variety. The same may be said of the *Norpareil*, No. 20. The *Native* or *Wine*, No. 18, is a good flavored apple, and would probably make superior cider. The *Pomme de Gras*, No. 16, we should think a fine fruit. The sample marked *Greening*, No. 15, is not the apple commonly known by that name in the United States. The sample marked No. 7, "supposed to be the *U. S. Spitzenburg*," is not that apple. The Spitzenburg here cultivated, has a yellowish flesh color, is crisp, and is of a brighter red color than the sample sent. The *Long*, or *Bishop's Pippin*, No. 12, we think is identical with our *Bell-flower*.

Considered in all respects, the lot of apples sent by Mr. Hamilton, shows that the people of Nova Scotia have no need to send abroad for that description of fruit, but that on the contrary, the soil and climate of that country, will admit of their producing fine qualities for their own consumption and exportation.—EDS.

SHADE AND TIMBER TREES.

I was glad to see the remarks in a late No. of the Cult. on "Trees for Shelter and Ornament," with which I entirely agreed, with one exception. This is in attributing great benefit to shade for cattle in pastures. In saying this, I would be the last to foster the spirit of vandalism which unrelentingly sweeps from the farm, those beautiful and magnificent and refreshing objects of creation, ornamental trees. There are reasons enough to induce any man who has any refinement or civilization about him, to preserve a sufficient plantation of trees about his dwelling and farm yard, without urging what he may doubt as fact, and which indeed may be incorrect. We often lose as much by urging too many or untenable reasons, as by saying too little.

I very much question the propriety of allowing trees to stand along the borders of cultivated fields, or in pastures where the land is smooth, fertile, and dry for culture. The difficulty they cause in even and neat cultivation, is obvious to most farmers; and the loss of crops they occasion beneath their shade is much greater than many suppose. But besides these, it may be questioned if they do not often prove detrimental to the comfort and thrift of cattle, rather than otherwise. "But the cattle dread the scorching rays of the sun!" So do the horse-flies, and blood-suckers, and musquetoes. Hence they all seek the shade together; and there the cattle stand, for the comfort of the shade, and fight flies, till gnawing hunger compels them to seek for pasturage in the sun.

Experiment, of course, ought to settle this point; I know of but one, however, correctly performed, which permit me to state, as it first appeared in the New Genesee Farmer. Arthur F. Bill of Indiana, who milked fifty-five cows, had two pastures, of seventy-five acres each, both seeded with the same kind of grass, the feed equally good and both well watered. One had no shade in it; the other had scattered trees, and a small piece of woodland. The cows were confined to each pasture, each alternate week. When the hot weather of summer came on, the proprietor noticed that when the cows were in the shady pasture, the weight of the daily cheese was from 15 to 20 lbs. less than during the week they were in the other pasture. Such was the eagerness with which they sought the shade, that they were noticed to feed only half as many hours during the day when they could find it, as when wholly in the sun.

But if trees are not allowed in arable fields, where then shall we have them? I answer, first, about your houses. Every man who has a wife, or children, is bound by every reason, selfish, humane, moral, and religious, to render home pleasant to the former, and attractive to the latter. How many young men might thus have been preserved from bad company and dissipation and ruin.

Secondly, along hill-sides, gulleys, and other uneven pieces of ground, according to the excellent directions in the article just alluded to, and where the growth of valuable and well selected timber might in a few years prove of great value.

And with the hope of answering, in part, some of the inquiries of that article, permit me to say a few words on the Larch.

The European Larch has been very extensively planted in some parts of Scotland as a timber tree, its great excellence having been thoroughly proved. The rapidity of its growth is remarkable. Some trees planted on the fertile grounds of the Duke of Argyle, grew to a height of 120 feet in fifty years, averaging nearly two feet and a half each year. Other trees, eighty years old, produced six loads (300 feet) of timber, each. The Duke of Athol had the satisfaction of seeing a British frigate built at Woolwich in 1819 and 1820, of timber planted by himself and his predecessor. The durability of this species is very great. Posts of oak, on the river Thames, which were placed so as to be alternately covered by water, and left dry, by the rise and fall of the tide, were twice renewed from decay in the course of a few years; while those made of larch, in precisely similar circumstances, remained wholly unchanged.

In speaking of its value and rapidity of growth, the Duke of Athol said, "It may vie in growth and profit with the Huntington willow, which has deen said to buy the horse, before any other tree could buy the saddle."

It has been remarked, in connexion with its durability, that while the heart wood is not formed in other resinous trees till after many years,—the larch begins to make it soon after it is planted; branches only an inch in diameter containing as great a proportion of heart wood as the largest trees of the forest.

This is not the case with the American larch, a considerable portion of sap wood existing in small trees, which soon decays. The heart wood however is durable; but to what degree I do not know.

The European larch appears to be a native of mountainous districts, and of course succeeds well on poor and hilly regions. It grows well when planted in common soils in western New-York, but to what size or with what degree of rapidity, more and longer experiments are required to determine. There can, however, be scarcely a question of the propriety of its introduction as a timber tree, provided the young plants can be easily obtained, which is not now the case. For ornamental beauty, it has scarcely a rival of its kind.

The American larch exists in great abundance in many swamps in the northern portion of western New-York, where it is commonly called *Tamarack*, perhaps corrupted from *Tamarix*, which it slightly resembles externally, but to which it has no affinity. It may be easily transplanted to dry upland when small, where it flourishes, especially if care is taken to remove with it a portion of the muck adhering to the roots. For ornament, it bears no comparison with the European. For durability, as fence posts, timber, &c., it is not enough examined or known, and I hope those who have tried it, will commuunicate their experiments, for I see I have not given much information, after all, on the subject. J. J. T.

GRAPE VINES.

MESSRS. EDITORS—I saw an article in the 10th No. of the present vol. of the Cultivator, stating that a grape vine, left to its natural habits, will bear as well as if it were dressed in a proper manner. No doubt it will *bear*, but who will be able to give sufficient proof to a person acquainted with vegetable physiology, or with horticulture, that a grape vine or any fruit-tree, left to itself, will bear as *much* and as *good* fruit, as those dressed in a judicious manner? Let the enlightened readers of the Cultivator look at the treatment the vine receives in Maderia, the Ionian islands, or any other country where the cultivation of the vine is made a science, and they will soon see the absurdity of trying to maintain that nature, left to herself, will in this case perform her work as well as it can be done by nature's *journeymen*. I think it useless, for the present, to advert to further proofs, but should your readers desire it, I will, in a future number, speak more fully of the utility of general pruning.

Greenbush, Nov. 1844. TYRO.

SWEET AND SOUR APPLE.

A writer over the signature of "S." in the October number of the Cultivator, remarks on the various humbugs of the day. We are are well aware that there are humbugs enough afloat at this day, to satisfy the most credulous wonder seekers. Among several undoubted cases of this character he alludes to the apple, said to be produced, part sour and part sweet. The writer of this has within a few days, seen and tasted an apple, one side of which was decidedly sour, and the opposite side as decidedly sweet, *not produced* by placing the bud "upside down," but by taking parts of two buds, one from a tree producing sour, and one from a tree producing sweet apples, and joining them nicely together.

Can you inform your readers where grafts of the "King apple" can be obtained? We have eaten one from the orchard of Mr. George Walker, near Ithaca, Tompkins co., and consider it the best apple produced any where. The King apple is red, of a medium size, slightly sour, and very juicy and rich. When baked, it makes a delicious jelly that nearly fills the pan. E. R.

We do not know the "King Apple," nor where scions of this variety can be obtained. It is possible it may be what is described in some catalogues as the "King of Pippins," which Mr. Kenrick, in his New American Orchardist, says is "a first rate fruit, which no garden should be without; middle sized; oblong; color, clear golden yellow, fine red next the sun; rich and juicy. Autumn. Productive."

CULTIVATION OF SPRING GRAIN AT THE SOUTH

It appears that in South Carolina, oats and barley may be sown in the fall, and the frost of winter is not hard enough to kill them. Our friend, Mr. Wm. Summer, of Pomaria, as chairman of a committee appointed for the purpose, recently submitted a report to the Newbury Agricultural Society, on the cultivation of oats, rye, barley, and buckwheat, from which we gather the following facts:—For oats, fall sowing is preferable, as the oats are not liable to be injured by spring drouth; the yield is greater, and the head much better than if sown in the spring. If not sown in the fall, they should at all events be sown during the month of February. Cotton seed, if applied to them, is of more importance to this, than to any other crop. The seed should be carefully plowed in, or if the ground has just been broken up, a heavy iron toothed harrow would perhaps answer a good purpose in putting the seed to a proper depth. The selection of proper seed is also a subject of much importance. There are however, some excellent varieties of oats cultivated among us. The Bremen or Potatoe Oats, is preferred by some, while others prefer the Ruffled. The black and white Tartarian, although not yet cultivated among us, are said to be the best description for the poorest exhausted soils, producing more on those sorts, than any other variety.

"*Rye* has been cultivated perhaps as long as any of the varieties of small grain, and its cultivation is becoming a matter of increased importance, as it is found particularly adapted for grazing, furnishing the best early spring pasture we can have recourse to for lambs, young calves, and pigs. Care should be taken not to graze horses, cattle and hogs upon it while young, and particularly while the ground is wet. It is not so easily pulled up by the roots, and is therefore better adapted to grazing hogs, than any other variety of small grain. If the intention is to pasture, it should invariably be put in during the month of September; it will then be fit to graze in February, at which time it will be particularly valuable, especially for ewes, with early lambs.

"*Barley*, has been cultivated from the earliest antiquity, and was much in use among the Romans, both as food for soldiers and horses. It is, upon the whole, one of the most valuable and important grain crops, which we can cultivate. It is almost invariably a certain crop, as from its early maturity it makes itself from the winter seasons. For soiling cattle and horses it is superior to any other grain that we can have recourse to. When soiling is the principal object, it is advisable to sow at different times, from the first of October until the last of November; thus furnishing it in succession from the first of March until May. When young, it should be cut off carefully with a keen grass scythe, and raked neat and careful, and if the soil has been made rich, a second cutting can be obtained. It requires a rich loamy soil, and where this cannot be readily obtained, the ground must be made rich by supplying the necessary quantity of stable manure. Ashes is important to this, as it is to every other grain crop. Unless the ground is made rich, you can never expect to succeed with the crop; and as only a few acres are required for the purpose of soiling, even on the largest farm, the ground can be readily manured. Cotton seed applied liberally, is also an excellent manure. As soiling is the principal object, the spot selected for barley should be near, and convenient to the stables and cattle yard. Sow from a bushel to a bushel and a half to the acre. The ground should be deeply broken up, and the seed neatly plowed in; the whole should then be well harrowed, so that the ground is thoroughly and finely pulverized."

ROTATION OF CROPS FOR SOUTH CAROLINA.—We make the following extract from an address delivered before the Greenvile Ag. Society of S. C., on the 19th Oct. last, by Hon. JOEL R. POINSETT. He says:—"Whatever system may be adopted must be based upon the rules laid down above. Do not cultivate grain crops on the same land two years in succession. Do not repeat the same crop at too short intervals. Change the seed frequently. The order of succession, as I said before, is of little consequence. Cultivate turneps in drills, and abundantly, as also sweet potatoes and peas; all of these are to be regarded as fallow crops, fitting the land to receive grain. Raise rye, the long straw of which is very useful in the preparation of dung. Manure your fields, and cultivate only that portion of land which you can manure sufficiently. I will venture to suggest a rotation of crops for four years, which it appears to me would suit our soil and climate:—

In the Light Soils.

First year, turneps and potatoes.
Second year, rye and oats with clover seed.
Third year, clover, cut once and plowed in.
Fourth year, wheat.

On Stronger Lands.

First year, Indian corn with peas well manured.
Second year, rye and oats with clover seed.
Third year, clover cut and turned in.
Fourth year, wheat.

These rotations are founded upon the principle that as much land as can be spared shall be cultivated in green crops, and a portion of it left in pasturage, in order to afford sustenance for cattle, and thereby furnish manure for the corn and grain crops. It is vain to encourage the farmer to raise fine cattle, until he has been taught to cultivate green crops to feed them. Fine cattle fed on broom-sedge, and left to seek a scanty subsistence in the woods, will soon degenerate; whereas, the common stock of this District, if fed on turneps, potatoes, peas and clover, would improve and become an excellent race. The heat of the climate cannot be pleaded in excuse for our neglect. Lucerne will stand our sun and furnish permanent pasture. Clover will flourish and yield abundantly the first and second year; after which the best use that can be made of it is to turn it under, to prepare the land for wheat, rye and oats."

POULTRY.

James L. Child, Esq., of Augusta, Maine, gives in the Maine Farmer, an interesting account of his mode of managing hens. He keeps several varieties, and is making some crosses by way of experiment. He gives the preference, "considering their qualities, food, eggs, hardiness, &c., to the Polands," and says "they have truly been denominated *everlasting layers*. The Poland Hens seldom show an inclination to set, and the Dorkings much less than the other varieties. My Hens laid nearly as well during the winter as in the warm weather. Their habitation was warm, and so constructed as to bring them to the ground, where they found, at all times, a good supply of old plastering, ashes, pulverized oyster shells, charcoal, fresh water, once or twice a week beef liver, or some other kind of meat or grease instead. I feed chiefly upon baked or boiled potatoes, giving their food to them warm in the morning and at night, occasionally dealing to them a little corn or oats, and giving them all the crumbs, and skins, and fragments, of the cooked vegetables. To prevent their being infested with lice, about once a fortnight I mixed in dough, so as to discolor it, a quantity of flower of brimstone, which is the sure preventive as well as remedy, and may safely be given in small quantities to young chickens for the same purpose. It will be seen from my mode of keeping my Hens, which averaged about 25 and 3 Roosters, through the winter, that I cannot give the precise cost of keeping, but I am satisfied that potatoes may be given as the general food, and Fowls kept cheaper in this mode than in any other—and they will always be ready for the spit, if not stinted in quantity. I find my Fowls fat at all seasons. I estimate that my hens afford me from their eggs, without regard to their meat, a clear profit of fifty per cent. I confine them to their yard, hen house, and barn cellar during gardening, and to their house and cellar in the winter, and think with that degree of confinement, they lay better than when allowed to wander at large. Hen houses and roosts should be kept neat, and often whitewashed, and their nests should always have half an inch or more of ashes or lime on the bottom, under the hay. Broken or rotten eggs should never be allowed to remain in their nests. Dirty water should not be given them. To do well they require pure water, and all their food fresh and uninjured from taint or fermentation. I estimate that during the year, (deducting the time of their molting, and inclination to set) I have got daily one half as many eggs as I have had laying Hens. Every family can, with a very little trouble with their flock of a dozen Hens, have fresh eggs in plenty during the whole year, say in all, 2000, and 100 full grown Chickens; and of all the animals domesticated for the use of man, (if such be the fact) the hen is capable of yielding the greatest possible profit to the owner. I have stated that I gave my Fowls meat or grease; this is indispensable if they are not allowed to go at large. If corn is fed out, it should be soaked, and 15 bushels is a fair yearly allowance for 12 Hens and a Rooster. But they should always have food by them, and after they have become habituated to find enough at all times in the trough, they take but a few kernels at a time, except just before retiring to roost, when they will take nearly a spoonful into their crops—but if they are scantily or irregularly fed, they will greedily snatch up a whole crop full at a time, and stop laying, and not unfrequently engender some fatal disease.

THE HOUSEKEEPER.

From the "Housekeeper's Annual" for 1845, a pretty little work issued by Carter & Co., Boston, we copy the following Recipes:

To make Yeast.—Boil for half an hour two quarts of water, thickened with about three spoonfuls of fine flour, and sweetened with nearly half a pound of brown sugar, or two teacups of molasses. When almost cold, put it into a jug adding four spoonfuls of fresh yeast. Shake it well together, let it stand uncovered near the fire for a day to ferment. There will be a thin liquor on the top, pour this off, shake the remainder, and cork it up for use. To make half a peck of flour into bread, a quarter of a pint of the above mixture will be needed.

Soft Custards.—Boil one quart of new milk and with it cinnamon, mace, or lemon peel. Nine eggs, leaving out five whites, beat them well and add them to the milk, sweeten it with loaf sugar. Add rose water if you like. Put the custard into a pitcher, place it in a vessel of boiling water, stir it constantly. Beat the reserved whites to a stiff froth with powdered sugar, add a little rose water, or essence of lemon. Lay this frost on the top of the custards. The contrast is pretty, and more cups may be filled.

Pennsylvania Apple Butter.—To make this according to German law, the host should, in the Autumn, invite his neighbors, particularly the young men and maidens, to make up an apple butter party. Being assembled, let three bushels of fair sweet apples be pared, quartered and the cores removed. Meanwhile, let two barrels of new cider be boiled down to one-half. When this is done, commit the prepared apples to the cider and let the boiling go on briskly and systematically. But to accomplish the main design, the party must take turns at stirring the contents without cessation so that they may not become attached to the sides of the vessel and burn. Let the stirring go on till the amalgamated cider and apples become as thick as hasty pudding, then throw in powdered allspice, when it may be considered as finished and committed to the pots for further use. This is Apple Butter; and it will keep sweet for many years. It is a capital article for the table.

COTTON BEDS.

We have received from J. A. Geurnsey, Esq. a copy of the "Southron," published at Jackson, Miss., containing some remarks on the advantages of cotton for bedding. These advantages may be summed up as follows. It is claimed that "it is the cheapest, most comfortable, and most healthy material for bedding, that is known to the civilized world." In addition to these, may be named "*superior cleanliness*—vermin will not abide it—there is *no grease* in it, as in hair or wool—it does not get *stale* and acquire an *unpleasant odor*, as feathers do—moths do not infest it, as they do wool—it does not pack and become hard, as moss does—nor does it become dry, brittle and dusty, as do straw or husks—and it is in many cases *medicinal*." It is said not to cause that lassitude and inertia, which is produced by sleeping on feathers. People not acquainted with it, have supposed they had been sleeping on the best feathers, when in fact their beds were made of cotton. The relative cost of cotton compared with feathers, hair, &c. may be seen from the following statement:

"*Cost of a Hair Matrass.*—They are generally sold by the lb. and cost from 50 to 75 cents per lb. 30 or 40 lbs. will cost $15 or $20.

Wool.—30 lbs. wool, at 30 cents per lb. $9; 12 yards ticking, at 12½ cents per yard, $1 50; labor, thread, &c., 2 75. Total $13 25.

Feathers.—40 lbs. feathers at 30 cents per lb., $12 00; 15 yards ticking at 12½ cents per yard, 1 87½; labor, &c. $2 75. Total $16 62¼.

Cotton.—30 lbs. cotton at 8 cents per lb. $2 40; 12 yards ticking at 12½ cents per yard, $1 50; labor, thread, &c., $2 75. Total $6 65."

It is recommended to run the cotton through a "picker," where one can conveniently be obtained, before using. This gives it additional cleanliness and buoyancy.

The substitution of cotton for bedding throughout the United States, would be an immense saving, besides opening a new avenue for that article to an extent according to the estimation of this writer, equal "to more than two of the largest crops of cotton ever produced in the United States."

Mr. W. Turnhill, of Braceboro', near Stamford, has now in his yard a goose which has been on the same premises for 50 years. She lately laid 11 eggs, has hatched, and is bringing up 11 fine goslings.—*Stamford Mercury.*

CONTENTS OF THIS NUMBER.

Ag. Societies of Nova Scotia, 363.
Apples from Nova Scotia, 388.
Book Farming, 377.
Col. Randall's sheep, 378.
Compound for fattening cattle, 373.
Condensed correspondence, 363.
Cotton Beds, 391.
Culture of fruit trees, 382.
Culture of spring grain, 390.
Curing meat, 374.
Disease in cattle, 380—in potatoes, 371, 373, 376.
Foreign Intelligence, 365, 366.
Grape Vines, 389.
Grasses from Bermuda, 388.
Household Economy, 385.
Hussey's Reaping Machine, 386.
Inducements to emigration to Virginia, 376.
Influence of water on soils, 375.
Inquiries about charcoal, 381.
Labels for fruit trees, 382.
Letter from Liverpool, 365—from Mr. Norton, 364.
Mr. Colman's European Agriculture, 369.
Mr. French's Farm, Braintree, 368.
Monthly Notices, 362.
Notice to subscribers, 361.
Notices of new books, 367.
N. Y. State Ag. Society, 363.
Origin of Guano, 379.
Pea and the Pea Bug, 372.
Plans for horse barns, 385.
Poultry, 391.
Products of the year 1844, 371.
Queens Co. Ag. Society, 377.
Relative value of vegetables, 372.
Rotation of crops, 390.
Smut in grain, 367.
Salt for fruit trees, 368.
Salt as a fertilizer, 372.
Shade and timber trees, 389.
Smith's Corn Sheller, 381.
Sore Teats, 380.
Sanford's Straw Cutter, 383.
Salt in curing clover, 387.
Sweet and sour apple, 390.
Taplin's horse power, 377.
The late State Fair, 383.
Trees gnawed by mice, 386.
Woodcock's plow, 376.

ILLUSTRATIONS.

Woodcock's Plow, 376.
Taplin's Horse Power, 377.
Smith's Corn Sheller, 381.
Sanford's Straw Cutter, 383.
Horse Barns, 385.
Trees gnawed by Mice, 386.

FARM IN ILLINOIS.

FOR SALE—A good farm, with valuable improvements. The subscriber being about changing his business, will sell a great bargain. Also has in immediate vicinity, 2,000 acres choice land, which he will sell at a discount from government price. Address ISAAC HINCKLEY, P. M., Audubon, Montgomery Co., Illinois.

Dec. 1, 1844—tf.

PRINCE'S LINNÆAN BOTANIC GARDEN

AND NURSERIES,

Flushing, L. I., near New-York.

WILLIAM R. PRINCE & CO'S New Descriptive Catalogues of Fruit and Ornamental Trees and Plants (34th edition,) *with prices much below those usually charged*, and comprising additions of above 500 select varieties of Fruits, and 1200 varieties of Ornamental Trees, Shrubs and Roses, not in any other American Nursery, will be sent to every post paid applicant. The cost of the present edition, is above $700, and it is the most complete ever published.

Also, Prince's Treatise on Fruits, $2,00, and on the Vine, $1,50, and on Roses, 50 cents. Orders will be executed in a superier manner, and forwarded as ordered. WM. R. PRINCE & Co.

Flushing, December, 1844—2t.

N. B. The public are cautioned against a spurious assumption of our title and name by Winter & Co.

THE CULTIVATOR,

NEW SERIES, VOL. II, FOR 1845.

GRATEFUL for the liberal patronage his paper continues to receive in every section of the United States, the proprietor has determined to add a new and attractive feature to the volume for 1845, by giving two or more beautiful **STEEL PLATES**, engraved in the first style of the art. Various other improvements are also contemplated, which, with the constantly increasing list of correspondents, will, he trusts, render "THE CULTIVATOR" a most welcome visitor with every farmer and horticulturist.

Each number of the Cultivator contains 32 large octavo pages, and is published at the low price of $1,00 a year—Seven copies for $5—Fifteen copies for $10.

"We do no more," says Rev. Dr. Bond, editor of the Christian Advocate and Journal, "than strict justice when we say we believe the Cultivator is considered the best work of its class in the United States, and we have seen nothing equal to it from Europe."—"THE CULTIVATOR is," says the Auburn Journal, "by all comparison the best agricultural paper in the Union."—"We speak advisedly," says the Northern Advocate, "when we give *The Cultivator* the pre-eminence in point of maturity of agricultural knowledge, in every thing which appertains to the farmer or the farming interest."—"We do not believe," says the Albany Atlas, "that in the present range of periodical literature in America, there is a work so valuable as *The Cultivator*."

☞ Any person wishing to obtain the Cultivator, can do so by handing a dollar to his Postmaster, who is authorized to forward it, free of postage to the proprietor.

☞ Postmasters, and the friends of agriculture generally, are invited to act as Agents on the liberal terms above specified. Specimen numbers and prospectuses will be sent to all persons disposed to act as Agents, on application.

All orders must be accompanied with the cash, and be addressed to LUTHER TUCKER, Ed. Cultivator, Albany, N. Y.

SHORT HORN DURHAMS FOR SALE.

ONE or two Heifers three years old, in calf by the prize bull Meteor, and one yearling and one two year old Heifer. The two latter were got by the imported bull, Duke of Wellington—also a fine bull calf, now about 6 months old got by Meteor. GEO. VAIL.

Troy, Oct. 25th, 1844

AGENTS FOR THE CULTIVATOR.

Alexandria, D. C., Bell & Entwistle.
Ann Arbor, Mich., W. S. Maynard.
Athens, Geo., Albon Chase.
Augusta, Geo., C. A. Greenville & Co.
Baltimore, Md., Dr. G. B. Smith.
Bangor, Me., C. K. Miller, p. m.
Bennington, Vt., U. Hicks.
Benton, Missi., M. A. Jenkins, p.m.
Boston, Mass., Eben Wight, 46 Milk-street; A. D. Phelps, 124 Washington st.
Bridgeport, Ct., S. Sherman, Jr. p. m.
Brockville, U. C., J. G. Booth.
Buffalo, N. Y., T. S. Hawkes.
Canandaigua, Oliver Phelps.
Charleston, S. C., A. Huger, p. m.
Cleveland, Ohio, John Stair.
Cincinnati, " S. C. Parkhurst, W. H. Moore & Co.
Cornwallis, N. S., Dr. C. C. Hamilton.
Columbus, Ohio. C. S. Mattoon, a. p. m.
Columbus, Geo., G. W. E. Bedell, p. m.
Erie, Pa., T. Moorhead, Jr.
Fall River, Mass., H. H. Fish, Esq.
Farmington, Conn., G. D. Cowles, p. m.
Georgetown, D. C., John H. King.
Greensboro, N. C., James Sloan.
Greensboro, Ga., J. Cunningham.
Halifax, N. S., C. H. Belcher.
Hartford, Ct., E. W. Bull.
Hudson, J. McKinstry, p. m., Alex. Ross, S. B. Vail.
Ithaca, J. McCormick, p. m.
Kingston, N. Y., Jos. S. Smith.
Lansingburgh, A. Walsh, gratuitous.
Lexington, Ky., C. J. Saunders.
Louisville, Ky., George, Lapping & Co.
Louisville, Missi., Jas. Phagan, p m
Lynchburgh, Va., M. Davis, Jr.
Middlebury, Vt., C. Bowen, p. m.
Middletown, Ct., A. Coe.
Memphis, Tenn., A. B. Cowan.
Milledgeville, Ga., E. Daggett, p m
Montreal, L. C., B. Brewster.
Montgomery, Ala., N. Blue, p m
Mobile, Ala., E. G. Pratt.
Newark, N. J., Gibson & Ritchie.
Newburgh, J. Belknap, p m
Newcastle, Del., C. P. Holcomb.
New-Haven, Ct., George N. Seagrave.
New-Orleans, La., W. McKean, A. Hodge, Jr. Esq.
New-York city, M. H. Newman.
Norfolk, Va., R. Northington.
Norwich, Ct., John Hyde, Isaac Johnson.
Owego, G. J. Pumpelly, Esq.
Patterson, N. J., W. D. Quinn, p m
Philadelphia, Pa., D. Landreth & D. L. Munn.
Poughkeepsie, D. B. Lent, J. Van Benthuysen, p m
Pittsburg, Pa., J. W. Cook.
Providence, A. H. Stillwell.
Quebec, L. C, J. Wheatley.
Raleigh, N. C., T. J. Scott, p m
Richmond, Va., R. Hill Jr. & Co.
Rochester, D. B. Dewey.
Rome, Comstock & Johnson.
Rutland, Vt., D. Kirkaldie, M. Hawkes, p m
St. Albans, Vt., M. F. Palmer.
St. Andrews, N. B., G. F. Campbell, p m
St. Johns, N. B., T. H. Wentworth.
St. Louis, Mo., E. P. Pettes.
Saxes Mills, Vt., H. J. Saxe.
Springfield, Mass., D. C. Brewer.
Troy, Mowry & Vail.
Tuscaloosa, Ala., W. D. Marrast, p m
Utica, W. Bristol.
Vergennes, Vt., W. H. White.
Washington, D. C., J. F. Callan.
Williston, Vt., E. S. Brownell.
Wilmington, Del., Jas. L. Roche.
Worcester, Mass., M. L. Fisher, p m., Ruggles, Nourse & Mason.
Woodville, Missi., C. T. Foster.
Ypsilanti, Mich., Fras. Clarke.

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to J. OAKLEY,

Oct. 1.—tf. No. 75 Nassau street, New-York.

SUPERIOR FARMS FOR SALE.

TWO superior productive farms in Rensselaer county, 2 miles from Hoosic Falls. The farms are about one hundred acres each, and so situated as to be conveniently worked as two or one farm: each having the necessary buildings, and being judiciously divided into pasture and tilled land, all recently fenced with entire new materials in the most durable manner. The land is all of the first quality, and its present state of cultivation would bear a good comparison with any land in the county. These Farms will be sold together or separate, on terms most accommodating as to price and credit. Apply to

Lansingbnrgh, July 16, 1844. ALEXANDER WALSH

FARM FOR SALE.

THIS farm lies in Alexandria County, D. C., six miles from the Washington Market House, and three and a half from Georgetown. It contains two hundred and thirty-nine acres; from seventy to eighty in low land meadow, and from eighty to ninety in excellent timber, with a comfortable dwelling, good barn, ice house and dairy. Lime, which has been used already with fine effect, can be procured very cheap within three miles. It can be conveniently divided into two farms and will be sold upon accommodating terms as to price and credit. Apply to T. L. RINGGOLD

Washington City, D. C. Oct. 1844 1t *

SMITHSONIAN INSTITUTION LIBRARIES
3 9088 00205575 4
nmah S1.C967
The Cultivator :